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Ames Forester Vol. 60

Ames Forestry Club

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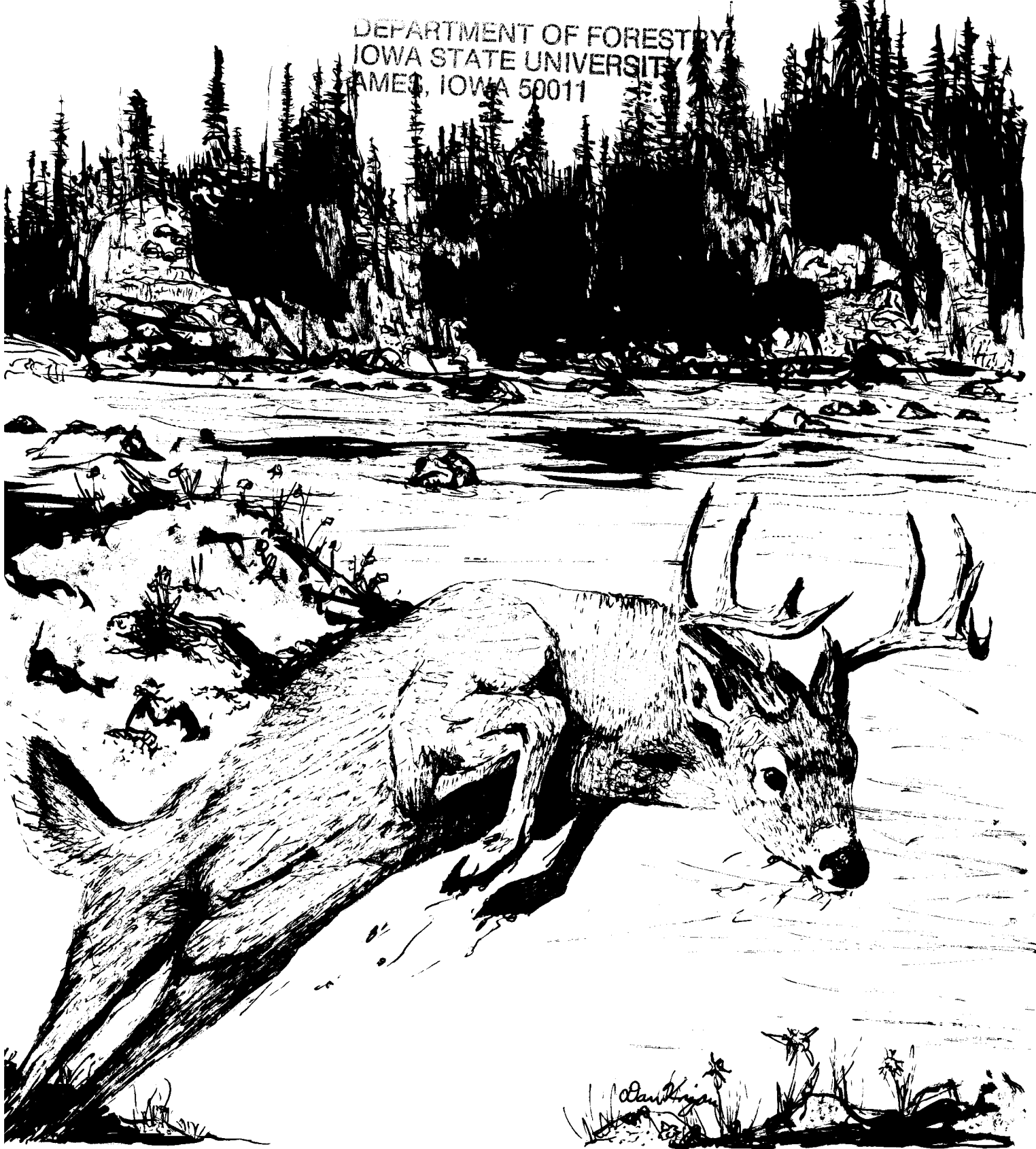
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DEPARTMENT OF FORESTRY
IOWA STATE UNIVERSITY
AMES, IOWA 50011



AMES FORESTER

IOWA STATE 1973

Come grow with us the forests of tomorrow

Practically all of today's forests are like the fabled "Topsy" of Harriet Beecher Stowe's famous pre-Civil War novel. They have "just grown."

And, we must admit, many of them have done very well. But not nearly as well as they could have, if Georgia-Pacific foresters of today had been on the job 100 years or so ago assisting Mother Nature.

Now, on Georgia-Pacific timberlands, trees are cared for, nourished, protected and watched carefully from the time their first tiny shoots poke their way through the topsoil until they are harvested to mark the end of one growing cycle and the beginning of another.

We call it the science of silviculture, or the art of growing trees.

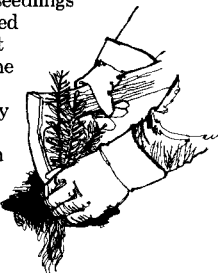
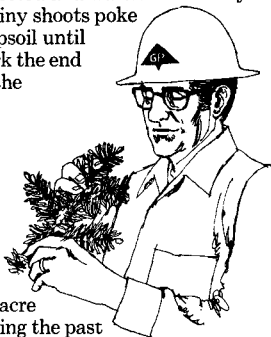
In the early years of tree farming, one of the generally accepted practices for reforesting harvested areas was to leave 4 to 8 seed trees per acre of harvested ground. During the past decade, a great deal of reforestation in the West has been accomplished with helicopters. Both methods can produce overly-thick young forests.

In dense forests, only a small percentage of trees reach maturity. Natural thinning eventually eliminates inferior trees. In Douglas fir timberland, for example, nature usually eliminates the smaller and defective trees by the time the stand is about 40 years old. In the loblolly pine forests of the South, natural thinning takes place at about age 20. But good silviculture practice dictates that dense stands of trees be thinned at an earlier age. Thousands of small trees that have no chance to reach maturity should not be allowed to take nutrients, sunshine, and water that could better be used by fewer trees that can grow faster without competition. Thinning of these profusely-growing, very small trees involves a time-consuming and expensive tree-by-tree approach.

The Super Tree

Through research, G-P foresters have concluded that hand planting seedlings grown from genetically improved seeds is the best way to reforest timberlands in many parts of the U.S. In other areas, nature provides all the seeds necessary for regeneration. Hand planting works well in rugged terrain and on land where weed competition is heavy. In addition, trees can be spaced properly, 10 to 12 feet apart. This greatly reduces the need for later thinning.

Today, Georgia-Pacific reforests harvested land by hand planting genetically superior seedlings. Not only does this method assure more productive forests for the future, but through it we are gradually approaching the super tree—the tree that grows straight, grows faster, is healthier, has fewer defects, and is more resistant to insects and disease than "natural" trees.



It takes time to put a project such as the production of huge quantities of genetically-improved tree seeds into actual practice. We started such projects many years ago and they are expanding rapidly. We believe we can be producing enough "super seeds" for all of our Douglas fir lands by 1975. Our Southern pine "seed orchards" already are producing genetically-improved seeds for future crops of this fast-growing species. In the South, 20 percent of our land reforested in 1971 received genetically superior seedlings.

Among other silvicultural practices under study at Georgia-Pacific is the application of fertilizer.

The use of fertilizer to improve crops on commercial agricultural lands has been known for centuries to be good business. We believe it pays off in the forest, too. Although it still is in the research phase, we are moving towards better, more complete use of this "tool."

The larger the tree, the more growing surface it has—and the more nutrients, sunshine, and water it requires. But small trees in a young forest can easily obtain the nutrients they need from the soil. If the land on which they are growing has not been burned after harvest, there are logging residues—tree tops, limbs, leaves, needles, and bark—which decay and add nourishment to the soil. If the land has been burned, the new crop will be helped by nitrogen and potash from the ashes.

The Effect of Fertilizing

Georgia-Pacific forestry research has shown that one application of fertilizer containing nitrogen and trace elements gives a boosting effect for 5 to 7 years. After the fertilizer is applied, the response appears quick and positive. Therefore, if fertilizer is added 7 years before a tree is harvested, the tree will derive maximum benefit. There is an economic factor, too. Fertilizers cost money. And fertilizer dollars can be recovered much more rapidly when they are invested near the time of harvest.

By hand planting genetically superior trees, properly spaced and fertilized at just the right time, Georgia-Pacific foresters help Mother Nature produce healthier, more productive forests.

Come grow with us

For forestry career information with Georgia-Pacific, write Georgia-Pacific Corporation, 900 S.W. Fifth Avenue, Portland, Oregon 97204.

Georgia-Pacific

Growing Forests Forever



The
AMES
FORESTER

1973
VOLUME 60



PUBLISHED BY FORESTRY and OUTDOOR RECREATION CLUB

IOWA STATE UNIVERSITY

AMES, IOWA

FOREWORD

The growth of forestry in the "home state" should be of interest to both alumni and students. From the Forestry Department the paths lead in many directions. In our diversified profession, graduates find challenge, satisfaction, and a continuation of the learning process. To closer ties among students, faculty, and alumni, the cause of forestry in Iowa, and the success of the individual forester, the members of the 1973 staff have pledged their efforts.

ACKNOWLEDGEMENTS

The staff is very grateful to everyone who made the publishing of the 1973 *Ames Forester* possible. A largely inexperienced staff appreciates the help of Glenn Johnson as a past editor, Mr. Robert Schwartz and Mr. Clayton Haberkorn of the Iowa State University Press whose help was invaluable, and Dr. Fred Hopkins our faculty advisor who stuck with us through these trying financial times. We feel wholly indebted to our patrons and advertisers for their financial support. Lastly, we would like to thank the faculty, students and other individuals who offered help in making this publication possible.

THE COVER AND ART WORK

The staff would like to thank Dan Krizan for the time he spent doing the cover and various other art work in the magazine. Dan is a senior at ISU in applied art, majoring and working in advertising design.

PHOTO CREDITS

Mark Ackleson, faculty, and students

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Academic Success in a Forestry School

By GEORGE W. THOMPSON, Professor¹

Department of Forestry, Iowa State University



The temptation to predict student success becomes almost overwhelming to the professor-adviser and the many woefully bad predictions made in September are overlooked in the euphoria of a June four years later.

Can the human equation be defined? Is it appropriate to try? Is it democratic or morally defensible to prejudge a *present* individual from a *historic* mean? The reader is encouraged to conjure with these questions.

The Need to Predict Student Success

Certain arguments can be made for analyzing a student's potential for academic success. Perhaps the following will stand up to scrutiny from professional educators and from students as well.

1. Each student is unique as to intellect, drive, preparation and background. He *is* a person and he specifically wishes to attend a school. Any informed advice seems better than an uninformed platitude.
2. Catalogs and course descriptions sound much more rigid than they, in fact, are. Minor adjustments of schedules *will* be made. Why not make them in a way to increase likelihood of student improvement?

3. Universities are already setting limits based on campus-wide student success predictions. Are forestry's best cut-off levels coincident with those of the university?
4. There are underachievers in the student body and there are mediocre students with good records who are too often encouraged to overaspire. Can one tell the difference? Does it make any difference if one can?

To be sure, there are conditions that tend to invalidate success predictions. The population of students facing the predictor seems very little like the population from which the prediction equation arose. For example: Entrance classes are twice as large as they were a decade ago even though the cut-off level from high school is higher. Admissions officers have changed the type of entrance or record examinations. Neighboring states have added forestry schools and changed the geographic complexion of classes. Within one's own university new curricula have developed that absorb students that once came to forestry. Military conscription as a national procedure alters student populations. Certainly a continual redefinition of forestry's role in society will change course offerings, the type of educator and the entire grading system.

Anyone charged with quality control must surely shudder when faced with a changing raw material, unstable manufacturing processes and uncertain consumer demand.

The Study

Properly humbled by the foregoing let us examine the results of a detailed study encompassing all students who entered the Department of Forestry, Iowa State University, between 1954 and 1965. This covers the era ensconced in the Cold War where students were no longer veterans, where less than twenty percent were married, and most had military service facing them. These were students of fair affluence. Most were Midwesterners. Almost all were sons of small businessmen or service people with few coming from families affiliated with the professions of law, medicine, theology or education. There was a larger number of farm boys than most schools would have but never more than forty percent of the enrollment.

¹. Professor of Forestry, Iowa State University. Special recognition should go to Kathleen McGuire Koch, For. '65, for her tireless pursuit of student records and imaginative search for clues to success prediction.

Each of the forestry schools in the United States has a unique complexion, not so much due to its staff or its administration as to its student body, that group of individuals which selects, rejects and flows around competing curricular choices. Iowa State is an institution created by the Morrill Act and thus strongly agricultural in its origins but increasingly dominated by engineering and science and the humanities in the more recent years of the industrial-social explosion.

A difficulty in analyzing student records lies in the false impression one gets of graduating classes wherein a screening effect of great magnitude exists due to the early loss of the incapable, unmotivated, disillusioned, debt-ridden or drafted. Since records on these students are so briefly held or have disappeared in the files of other departments there is sizable difficulty in incorporating these materials in an analysis. Then, too, the graduating class is probably made up of a majority of students who did not enter forestry as Freshmen four years earlier. Like the inherited axe that has had five new handles and two new heads the graduating class from today's forestry school has dim origins and uncertain ancestry.

This study utilized more than 900 student records. Certain studies described hereafter will be based on lesser numbers because of incomplete records but in each case *all* available records have been utilized, that is, no sampling from within the population has been done.

Study Applicability to Other Institutions

For a study such as this one to have any applicability to other institutions it seems essential to compare Iowa State with her sister universities. While difficult, the problem has been made easier by the recent publication of College Student Profiles by the American College Testing Program (ACT). Using these data the academic aptitude, high school performance and college grades of the Iowa State freshman class entering in the fall of 1965 were compared to those of students at other colleges and universities (Brown, 1967). The performance of these students was compared to:

A nationwide sample of 400 of the 2,100 colleges and universities that participated in the ACT research studies. Few ACT schools are Ivy League or the highly prestigious liberal arts colleges of the East.

A sample of 45 universities which grant the Ph.D. degree and are identified as Level IV institutions by the U.S. Office of Education.

A sample of 115 midwestern colleges and universities.

Table 1, parts A, B and C, defines the nature of Iowa State students on the basis of the above comparisons.

TABLE 1. A comparison of Iowa State students with a sample of those from other colleges and universities.

Part A. Academic aptitude (ACT Composite, raw scores)				
	National	Level IV	Midwest	Iowa State
ACT—English	18.7	20.4	19.8	22.8
—Mathematics	19.7	22.1	21.4	27.1
—Social Studies	20.8	22.9	22.3	25.6
—Natural Sciences	20.6	22.4	21.9	25.9
—Composite	20.1	22.1	21.5	25.5
Part B. High School grades				
—English	2.69	2.87	2.72	3.06
—Mathematics	2.37	2.55	2.38	2.90
—Social Studies	2.79	2.96	2.82	3.17
—Natural Sciences	2.51	2.67	2.51	2.95
—Average	2.59	2.77	2.62	3.02
Part C. College grades—end of Freshman year				
—English	2.02	2.11	*	2.22
—Mathematics	1.98	1.99	*	2.29
—Social Studies	1.97	2.02	*	*
—Natural Sciences	1.93	1.96	*	*
—Average	2.09	2.11	*	2.30
* grades not available				

Intensive analysis of the comparisons tabulated above is not intended but resident opinion seems supported. Students at this University have good academic aptitude and high school records and are more recognizably competent in the mathematical and natural sciences than in the communicative and social sciences. As an aside it might be noted that the Freshman year in college is difficult everywhere.

Predictive Parameters Available to Freshman Advisors

At Iowa State, students are expected to declare a curricular choice at the time of admission to the University. It is well recognized that there may be many poor choices made at this time but by assigning a student to an adviser in the field of his first choice, by severely restricting the number of professionally specific courses taken in the first year and by keeping the channels for transfer entirely open there seems to be adequate flexibility for student change. All entering students take entrance aptitude tests, the raw scores of which are converted to an Iowa State norm and expressed as percentiles. When these are combined with high school records the following information is available to the departmental adviser:

- X₇ High school average on a 4.0 system, A = 4.
- X₈ High school rank, percentile
- X₉ High school graduating class size
- X₁₃ ACE (American Council on Education or ACT (American College Testing) Q score on quantitative ability
- X₁₄ ACE or ACT score on linguistic ability
- X₁₅ ACE or ACT Composite score. This is a weighted combination of X₁₃ and X₁₄
- X₁₆ MSAT (Minnesota Scholastic Aptitude Test) which now replaces X₁₅
- X₁₇ Reading Speed
- X₁₈ Reading comprehension

- X₁₉ English placement
X₂₀ Mathematics placement

The Anatomy of the Forestry Student Body

The entering student population at Iowa State can be visualized from Table 2. Analysis by individual years was of interest to the resident staff but suffice it to say here that the consistency of recorded scores between years is very high.

TABLE 2. The academic profile of students entering Forestry at I.S.U. from 1956-1965.

Number entering I.S.U. as Freshman Foresters (X)		481
Number entering I.S.U. as transfers to Forestry (Y)		167
Number entering I.S.U. and later transferring to Forestry (Z)		178
TOTAL		826
		Groups
		X & Y Group Z
X ₇	High School average	2.561 2.691
X ₈	High School rank, %ile ¹	41 35
X ₉	High School class size	156 132
X ₁₃	A.C.E. or A.C.T. Q %ile	43 46
X ₁₄	A.C.E. or A.C.T. L %ile	42 41
X ₁₅	A.C.E. or A.C.T. Composite %ile	43 44
X ₁₆	M.S.A.T. %ile	46 51
X ₁₇	Reading Speed %ile	46 44
X ₁₈	Reading Comprehension %ile	50 49
X ₁₉	English Placement	40 43
X ₂₀	Math Placement	42 43

1. In variable 8 it should be noted that a value of 01 is the highest score possible while in all other variables 01 would be the lowest.

It should be recognized that the percentiles are presented against an Iowa State norm. Percentiles of 50 thus represent the average for this University. It is unfortunate that this study was conducted with percentile scores rather than raw scores as input. Early attempts by the author to predict appropriate work loads and probation and readmission standards had utilized the more readily recognized percentiles. Thus these score had been saved and provided a far more complete file than the more statistically defensible raw scores. In partial support of the use of the percentile score let it be said that the reader can probably identify the student with an ACT score of 83 percentile (meaning that his grade was better than 83 percent of his university classmates taking the test at that time) more readily than by his raw score of 28.

Note also that Iowa high school students were admitted to this University only if they were in the upper half of their graduating class. Admission of out-of-state students was generally restricted to those in approximately the upper one-third of their graduating class.

Forestry students, as do their peers in the College of Agriculture, have average scores in the lower half of the distribution at this institution. There is some evidence that the best students in high school are pressured by high school teachers, parents and advertising to "be an engineer or get into the space disciplines." The only tragedy in this lies in the lack of recognition of these advisers that there is room

for high intellect people in all fields and that not all bright students are geared to the same subjects. Forestry has little cause to complain about high school students with 2.6 cumulative averages from high school but it is easy to be distressed with counselling that seems to imply that intelligent students can only be satisfied in "engineering" or the somewhat nebulous field of "science."

Transfer students tend to make the switch to Forestry after one academic year in another school or department. The transfers from within the university come from higher percentile rankings and have slightly better high school averages than do the beginners in Forestry. The reasons for making departmental transfers are not identified here but it is common to find one-year students transferring *away* from a curriculum rather than *to* one. We must assume, then, that an awareness of one's limitations in mathematics or physics drives Sophomores out of these sciences and that Forestry or other departments are second choices. Every adviser, however, has heard a student say "I wanted to be in Forestry all along but my father wanted me to try -----." The reasons for transferring are legion and the machinery to accommodate this migration must be provided.

The Origins of a Forestry Student Body

Where does a school get its students? What does it do to get its share of the best ones? What is the pattern of student mobility within a curriculum? Does forestry lose good students and pick up poor ones? Do we spend undue money and energy on students who will leave anyway? Is the in-state, lower tuition payer a poorer bet than the out-of-state student? Table 3 illustrates the origins of students who have made up this school's forestry student body over the last decade.

Certain conclusions seem evident. Although some are primarily applicable to Iowa State, they are perhaps of interest to all forestry educators.

Three-quarters of Iowa State students are Iowans. Probably all state schools having less-than-spectacu-

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TABLE 3. The composition of student population in Forestry at Iowa State from 1953-1965. Basis: 432 student records.

	Iowa Resident		Non-Iowa Resident		Total	
Initial Enrollment at I.S.U.						
Forestry	f:310	33.4%	f:107	11.4%	f:417	44.8%
Non-forestry	f:224	23.9%	f:62	6.7%	f:286	30.6%
Initial Enrollment not at I.S.U.						
Transfer Directly to Forestry	f:121	13.0%	f:41	4.4%	f:162	17.4%
Transfer to Forestry via Some Other Curriculum	f:50	5.4%	f:17	1.8%	f:67	7.2%
TOTAL	f:705	75.7%	f:227	24.3%	f:932	100%

lar scenery would run to about this proportion of students who are sons of the state tax payers. More significant is the observation that more than half of the students who have matriculated as foresters come from other departments or other universities. Recruitment and curriculum planning must be concerned with the transfer student although, as we shall see, the transfer student's likelihood of graduating varies with his origin. Further, a fruitful reservoir of students exists in the non-forestry departments as 37.8 percent of Iowa State's forestry student enrollment come by this route. Intramural recruitment and guidance may well be more advantageous (if ethically administered) than are the often deadly high school career days.

Table 4 attempts to look more closely at this complex and worrisome aspect of professional teaching—the transient student.

TABLE 4. An analysis of the factors of residence and methods of admission as they bear on degree program completion. Basis: 932 student records.

	Iowa Resident	Non-Iowa Resident	Total	Composition of Graduating Class %
Initial Enrollment at I.S.U.				
Forestry	54.5	55.1	54.5	47.3
			f=228	
Non-forestry	45.1	42.0	44.4	26.3
			f=127	
Initial Enrollment Not at I.S.U.				
Transfer Directly to Forestry	55.3	68.4	58.5	19.7
			f=95	
Transfer to Forestry via Some Other curriculum	48.0	47.0	47.8	6.7
			f=32	
TOTAL	51.2	53.3	51.6	
	f=361	f=121	f=482	
Composition of Graduating Class	75.0	25.0		100.0%

It is worth commenting that the make-up of the graduating population broken down by residence and type of admission is almost identical with the make-up of the entire student body that is in residence at

any one time. More significant than that observation is the one that states that barely half (51.6%) of all students entering the curriculum complete the program. Those who transfer directly to Forestry from another institution have a good record of completion (58.5%) while those already at Iowa State who transfer into Forestry have the worst record of completion (44.4%). Those students from out of state who transfer directly to Forestry have the best completion record of all (68.4%).

It may be concluded that the student within the university who suffers an initial disillusionment with his first choice of curriculum (probably getting low grades in the process) is a poor risk as far as program completion is concerned. The first failure seems to precipitate a second and he drops out of school. On the other hand transfer students who have put in a year at another school and come to Iowa State specifically for forestry are good prospects. Area, Junior and Community Colleges take note!

Characteristics of the Forestry Student who Graduates

Advisers and professor have long been aware of the differences between Freshman classes and Senior classes. However, the complexities of increased age, decreased naivete and freshness, presumed increase in knowledge and adaptation to the system so cloud the issue that an instructor has no real way of knowing the type of student staying with forestry as opposed to the type failing or withdrawing. Table 5 shows a compilation of high school and entrance test scores for the students who stay and those who fail, drop out or transfer. Again the population is displayed by origin and type of admission.

Comparison of Table 2 and aTble 5 shows a somewhat surprising failure of the drop-out process to improve the average entrance scores of graduates over beginning students. What ever improvement there has been, due to the selection process, seems to be most noticeable in students going directly from high school to Forestry. This would seem to indicate that those with a juvenile enthusiasm for forestry and a false image untempered by the rigors of college attendance will have poorer high school records, will select forestry for unreal reasons and will many times become discouraged and drop out of college.

Although the population of graduates may be identifiably different from the population of entering students there seems to be a pronounced difference evident between the students who graduate and those who drop out along the way. The parameters of high school average and rank, ACT composite, English and mathematics placement and reading comprehension are most noticeably different. Worthy of speculation is the evidence that the differences in scores between graduates and beginners is more pronounced for students initially enrolling at Iowa State than for those transferring in from outside. Supporting data

are limited but students who withdraw from Forestry to graduate in another curriculum end with noticeably lower university QPA than do those staying in Forestry.

It may be concluded, perhaps, that Forestry does not draw from the most academically competent group of high school students but neither does it appear to lose many of its better students. In total, the screening and educational process produces a graduating student body with an average QPA that ranks in the top one third of the College of Agriculture.

The Prediction of Academic Success

Do entrance and application scores tell the adviser anything of use in counselling? It is easy to forget that scores on these tests merely result from me-

TABLE 5. Characteristics associated with the process of completing the forestry degree program. Basis: 932 student records.

Variable	Iowa Resident		Non-Iowa Resident	
	Completed	Withdrawn	Completed	Withdrawn
Initial Enrollment at I.S.U. Forestry				
Reading Comprehension	123.45	123.45(24)	123.45	123.45(7)
H.S. Average	2.87	2.43	2.87	2.60
H.S. Percentile	32	47	28	40
H.S. Class Size	128	119	319	228
ACT Composite	50	38	56	38
MSAT	49	44	49	47
English Placement	47	36	54	31
Reading Comprehension	55	46	57	46
Math. Placement	49	38	48	34
Graduating QPA	2.60	2.39(24)	2.63	2.23(7)
Non-Forestry				
H.S. Average	2.80	2.65	2.85	2.35
H.S. Percentile	31	40	29	48
H.S. Class Size	107	95	223	289
ACT Composite	47	34	56	34
MSAT	48	32	54	36
English Placement	44	37	48	33
Reading Comprehension	53	44	58	42
Math. Placement	44	38	54	35
Graduating QPA	2.52	2.29(37)	2.56	2.26(7)
Initial Enrollment not at I.S.U.				
Transfer directly to Forestry				
H.S. Average	2.53	2.33	2.49	2.55
H.S. Percentile	43	53	41	34
H.S. Class Size	119	123	200	244
ACT Composite	48	39	53	60
MSAT	47	36	43	47
English Placement	41	38	47	43
Reading Comprehension	54	49	54	62
Math. Placement	44	42	38	35
Graduating QPA	2.54	2.37(16)	2.70	2.65(3)
Transfer to Forestry via some other curriculum				
H.S. Average	2.50	2.33	2.36	2.14
H.S. Percentile	40	55	46	59
H.S. Class Size	97	114	276	238
ACT Composite	47	40	34	36
MSAT	41	41	30	37
English Placement	34	35	31	35
Reading Comprehension	44	48	44	53
Graduating QPA	2.62	2.60(8)	2.54	2.25(9)

1. The graduating QPA for those withdrawing from forestry is often difficult to obtain and thus there are imperfect records. These low frequencies appear in brackets.

vered students in an apparently hostile environment answering multiple choice questions designed by ordinary mortals. Certainly a student who reads well and quickly will do better than a student who reads badly, and will do this independently of his perseverance, honesty and intellectual (as opposed to academic) curiosity. A close study of the matrix in Table 6 may help the reader to visualize the significance of these test scores. Any correlation coefficient, r , value of more than 0.115 may be considered statistically significant, $p = .01$.

Study of factors related to first quarter cumulative grade average is productive only if we realize that this is that vital jumping-off place for students. Unsuccessful first quarters lead to low morale, temptation to change curricula or to withdraw from school. Added to these conditions is the obvious fact that for many of the students entering in the fall this may be the only record they will have and thus is the only dependent variable with which the researcher can work.

Contrary to lay assumption, high school size does not figure heavily in success prediction nor does the actual high school grade average. However, rank in graduating class is a very important item. We can suppose that this means that a boy who stands out among his fellows in high school possesses those attributes that contribute to success in a university.

However, too close scrutiny of correlation matrices leads to madness. How can one find that high school average is highly correlated with ACT Quantitative score but that first quarter college grades ((where mathematics is an old and feared antagonist of the Freshman) are scarcely correlated with ACT Q at all? Let it be sufficient to draw attention to the variables of high school rank, reading comprehension, English placement and mathematics placement as those "measurable" factors that positively affect a forestry student's first quarter grades. These, then, might be factors worth considering when awarding scholarships, granting loans, limiting enrollment or any of the tasks that require judgment.

Table 8 presents four simple linear regressions and justice when there is a paucity of information. that might be considered as prediction equations although the standard errors of estimate (s_{yx}) are so great as to dissuade all but the most naive from making so cavalier an attempt.

Does, in fact, the average at the end of one quarter have anything to say about a student's final grade in forestry school? This has been a complex factor to analyze because so many more students begin school than finish and thus data for the prediction of final grades must come from a highly biased population that has graduated. This study of 240 forestry graduates yielded a regression of $Y = 1.871 + .2930 X$, $r = .538$, when final grade average was regressed on first quarter average and $Y = 1.213 + .5656 X$, $r = .773$, when final grade average was re-

TABLE 6. Correlation matrix of twelve variables pertinent to student accomplishment. Based on 729 students entering Forestry between 1956 and 1965.

Variables	X ₇	X ₈	X ₉	X ₁₃	X ₁₄	X ₃	X ₁₅	X ₁₆	X ₁₇	X ₁₈	X ₁₉
X ₉	1.0000										
X ₇	0.0987	1.0000									
X ₈	-0.4007	0.0752	1.0000								
X ₆	0.0135	0.4093	0.1245	1.0000							
X ₁₃	0.0814	0.6276	0.0162	0.2857	1.0000						
X ₁₄	0.1344	0.6414	-0.0072	0.3120	0.7483	1.0000					
X ₁₅	0.2857	0.0269	-0.2458	-0.0085	0.5042	0.5585	1.0000				
X ₁₆	0.2180	-0.6283	-0.2851	-0.2924	-0.5748	-0.5777	0.0564	1.0000			
X ₁₇	0.1297	-0.0151	-0.1636	0.0236	0.1121	0.2185	0.3919	0.2101	1.0000		
X ₁₈	0.3260	0.0469	-0.2443	0.0759	0.1896	0.3246	0.5099	0.2449	0.6897	1.0000	
X ₁₉	0.4321	0.1482	-0.4196	0.0543	0.2061	0.2634	0.4733	0.3191	0.3652	0.5285	1.0000
X ₂₀	0.3727	0.0446	-0.2652	0.0223	0.1377	0.0842	0.3096	0.1832	0.1473	0.2446	0.39

The tabular values are simple correlation coefficients (r). X₃ is cumulative average after one quarter in Forestry at I.S.U. See Table 1 for key to the X_i codes. Values greater than 0.115 are statistically significant, $p = .01$.

gressed on cumulative average at end of first year. This, then, is a relationship of limited utility to the adviser or admissions officer who must make his judgments on entering students.

As might be expected the correlation coefficients between predictive variables and graduating grade averages (while not shown here) were weaker than those between the independent variables and first quarter grade averages. This seems to indicate that more unexpected factors make themselves felt in four years than do so in three months. This should be no surprise to professional foresters who deal commonly with site index and the factors pertinent thereto.

Increased awareness of relationships between academic average and testable characteristics available to the adviser leads one to the question: Can a *multivariate* regression based on factors available from entrance records predict individual student academic accomplishment and do so within reasonable limits?

Now convinced that a student's first quarter average is a key index both to his chances of survival and to the level of his final quality point average and being further aware that the first quarter average is more closely linked to entrance exams than are subsequent averages, several predictive equations were developed. The following regression was selected for further testing:

$$\text{First Quarter Average} = 1.774 - .0093 \text{ H.S. Hank \%} + .0078 \text{ MSAT\%} + .0047 \text{ Math. Place \%}$$

$$s_{yx} = +.582 \quad R = 0.573^{**} \\ F = 45.328 \quad n = 282$$

The testing of this equation was done against four groups of student records. Each group contained the records of twenty-two students. The groups were:

- Group I. Twenty-two students drawn at random from the original source of 729 student records.
- Group II. Twenty-two students who entered this university immediately after the completion of the original study in 1965. These were thus Sophomores and Juniors who had survived for at least four quarters.
- Group III. Twenty-two students who had just completed their Freshman year.
- Group IV. Twenty-two students who had just completed their first quarter.

Table 9 illustrates the distributions of deviations from regression for each of the test groups.

Although the regression was highly significant in a statistical sense, it is relevant that small but realistic (to the adviser) segments of the original and the test populations are not predicted particularly well. Of more importance is the high incidence of very sizeable errors in the estimate of the performance of individual students. This condition alone effectively invalidates the hypothesis that individual performance can be predicted in any defensible sense. In none of the four groups could systematic bias be identified in respect to the independent variables studied.

The factors of incentive, self discipline, adaptability to the college environment as well as the "luck of the draw" concerned with class time, the professor and competition for time cause a variability in grade determination that make unreasonable the prediction of even an early average for an individual

TABLE 7. Coefficients appropriate to the prediction of first quarter grade averages for foresters in college. Basis: 729 student records.

First Quarter Grade Average	=	a	+	bX _i	± s _{yx}	r
X ₃	=	2.533	-	.0144 X ₈	.687	-.401
X ₈	=	1.500	+	.0094 X ₁₈	.709	.326
X ₃	=	1.462	+	.0123 X ₁₉	.676	.432
X ₈	=	1.546	+	.0120 X ₂₀	.696	.373

X₈ = High school rank, percentile; 01 is high
X₁₈ = Reading comprehension, percentile; 99 is high
X₁₉ = English placement, percentile; 99 is high
X₂₀ = Mathematics placement, percentile; 99 is high

TABLE 9. An array of deviations between actual and predicted academic averages at the end of one quarter in Forestry.

Class Limits of Deviations from Regression	Group I		Group II		Group III		Group IV	
	f	Cumulative Percent	f	Cumulative Percent	f	Cumulative Percent	f	Cumulative Percent
0 — .1	2	9.1		9.1	3	13.6	4	18.2
.11 — .30	4	27.3	7	41.0	5	36.4	2	27.2
.31 — .50	4	45.5	6	68.0	8	72.7	6	54.5
.51 — 1.00	11	95.1	4	86.0	5	95.1	6	81.7
1.00 +	1	100.0	3	100.0	1	100.0	4	100.0
Average G.P.	2.024		2.170		2.458		2.285	
Average Deviation	± .556 q.p.		± .485 q.p.		± .418 q.p.		± .528 q.p.	
Regression Total	× 100 105%		96%		89%		90%	
Actual Total								

student. Mensurationally we can settle for certain inaccuracies and aggregate errors in volume table construction but most of us are unwilling to do so when dealing with individual personalities.

For those who do not wish to attempt exact prediction of grades there may be some satisfaction in considering a student's likelihood of success. Counselling-wise, too, there may be merit in defining underachievers and overachievers as those varying widely from some counsellor-defined probability level of accomplishment.

Conclusion:

So far as Foresters at Iowa State University are concerned we may with some confidence conclude the following:

1. The transfer student is an important part of the forestry student body accounting for 55% of all students *admitted* to forestry and 52% of those graduating in forestry.
2. The non-Iowan accounts for 24% of those admitted to forestry and for exactly the same percentage of those graduating in forestry.
3. On the basis of 932 student records taken from the past decade ISU forestry students came, on the average, from the top 39 percent of their high school class which averaged 142 students. This represented a high school graduation average of 2.61. On the basis of entrance examinations these students had ACT percentile scores of 44 which places them below the average for the university where the means is 50.
4. Students most likely to withdraw from the forestry program (and this is generally associated with low grades resulting from either poor ability or low interest rank lower in their high school classes and come from smaller schools than do those who successfully complete the forestry curriculum.
5. While no mechanism exists to predict whether or not a student will complete the four year forestry curriculum it has become clear that high grades

in such entrance scores as MSAT, ACT, English Placement, Reading Comprehension and Mathematics Placement are associated with success in completing the program.

6. While statistically reasonable to predict graduating grade point on the basis of entrance scores it is more realistic to predict the all-important first quarter average. Once first quarter and first year grades are available then it is possible to predict graduating grade point.
7. It is possible and it may soon be necessary to establish criteria for the early judgment of student potential but the practice will penalize many individuals. The author suggests that such a study as this best serves when it is used as an adjunct to, rather than a substitute for, thoughtful counselling.

The human equation is still unresolved but it can be hoped that quantitative studies taken in connection with the concerned regard of all interested educators may help to define the ever-challenging and changing student population.

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This article should bring back fond reflections on the past.

In a time when education and science are fighting for every penny they can get and wondering if they'll ever win, the battle of the budget. It's nice that we can rely on the persistent cyclical nature of such problems whereby they are brought to the fore. Hopefully as before, it will bring a tremendous upswing in the intensification of science and scientific efforts.

THE AMES DAILY TRIBUNE
AND AMES EVENING TIMES
Thursday, Nov. 18, 1926

In a dispatch from Des Moines carried in Wednesday's Tribune, Claude R. Porter, a member of the state board of education, is reported as favoring the abolishment of the four year course in forestry at Iowa State college for the reason that this course "holds out false hopes to Iowa boys. Forestry students are not able to find jobs and the cause of forest conservation would be best advanced by a service course."

The Tribune would like to know whether Mr. Porter is purposely making mis-statements or whether he has been misinformed or whether he has not made any effort to get the facts in the case.

One would expect that a member of the state board of education would be very careful to give facts, especially when the matter of continuing a line of work which has been given for 25 years is involved. The Tribune does not believe that Mr. Porter is purposely misrepresenting but does know that he is sadly lacking in accurate information.

The statement that forestry students are not able to find jobs is ridiculous. Had Mr. Porter investigated the situation before making his statement, he would have found that all of the 17 graduates of the 1926 class in the forestry course went directly into forestry positions. Further, if the investigation had covered also the preceding year, he would have found that all of the graduates of that year went into forestry positions after completing college work. The same is also true of the forestry class graduating three years ago. The Tribune would like to ask Mr. Porter if he knows of any other department on the Iowa State campus or in any other institution in the state, which has had 100 per cent of its graduates in the past three years enter the line of work for which they were prepared.

Further than this, the college records show that on September 1, 1926, 100 per cent of the graduates

of the past three years were still in forestry work.

Perhaps the above figures do not go back far enough. The college records show that during the past ten years, 97 per cent of the men specializing in forestry went into forestry work on graduation and on September 1, 1926, 84 per cent of all of those graduates for the ten year period were still in forestry work.

Again The Tribune would like to ask Mr. Porter if he can furnish data from other departments either at Iowa State College or other institutions which will be so much better as to justify his statement that "forestry students are not able to find jobs and that the forestry profession holds out false hopes to Iowa boys."

A canvass of what the forestry graduates of Ames are doing might be enlightening:

One graduate is in charge of over twenty-two million acres of national forests; another is second in charge of approximately twenty-five million acres of national forest land. About seven or eight others are each in charge of approximately one million acres of national forests as supervisors.

Three are handling forestry extension work in different states. One is head of a forestry department in one of our western schools. Two others are in college forestry teaching positions.

Two graduates are handling important research work in the United States forest products laboratory. One is forester of the American Forestry Association. One is superintendent of the drykiln work of the Western Electric company. One is superintendent of a creosoting plant in the Longbell Lumber Company and three others are employed by the same company.

Four graduates are handling important investigational work as grazing experts in the United States Forest Service. Two are in important state forestry positions. A large number hold technical assistant positions in national forests. Many others are employed in various capacities with lumber companies and several are engaged in forest nursery business.

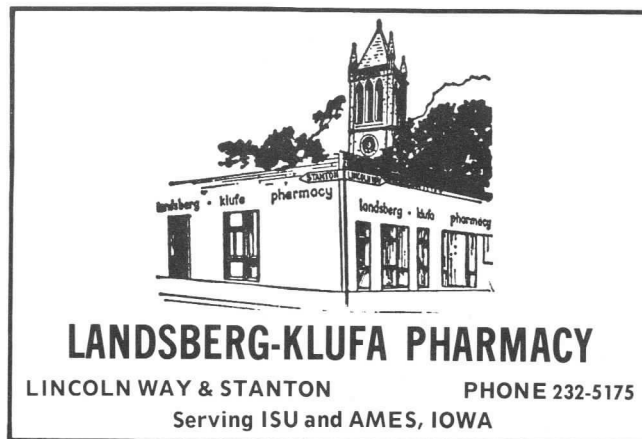
The Tribune is not inclined to believe many of the above young men feel that they have accepted positions with "false hopes" and wonders why Mr. Porter does not correspond with some of these men who are so over-burdened with "false hopes." It is possible that he might change his viewpoint, not only on forestry in general but also in regard to the splendid part forestry graduates from Iowa State college are playing in the country.

The Tribune believes that forestry, like the rest of agriculture, is a basic industry in the country. Forestry is not a fad—it is here to stay. The perpetuation and conservative management of the forests of the country, including the farm woodlots, is one of the outstanding problems which we are facing today. The profession of forestry offers one of the most inviting fields of opportunity and service available for the young manhood of Iowa. The men

entering forestry work are doing a real service to the country. The profession is just as honorable as law, medicine, engineering or other branches. The forestry department is giving good instruction in this field to about 100 Iowa boys as well as to a few scattering students from other states and nations.

If Mr. Porter's recommendation concerning the abandonment of the technical course in forestry is made for the purpose of economizing, this, of course, should receive careful attention. How-even, as reported in a former issue of The Tribune, it costs the forestry department of the college only approximately \$5,000 (on the basis of last year) to give the technical instruction in forestry to 124 men specializing in this work. It is generally understood that the forestry instructional work is given at a very modest expense to the state.

The Tribune does not believe that Mr. Porter is attempting to misrepresent but the people of the state have the right to demand that their representatives on the board of education at least inform themselves before making broad, sweeping and unfounded statements asking for the elimination of an established line of instructional work at one of the state institutions.



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OF SCIENCE AND TECHNOLOGY

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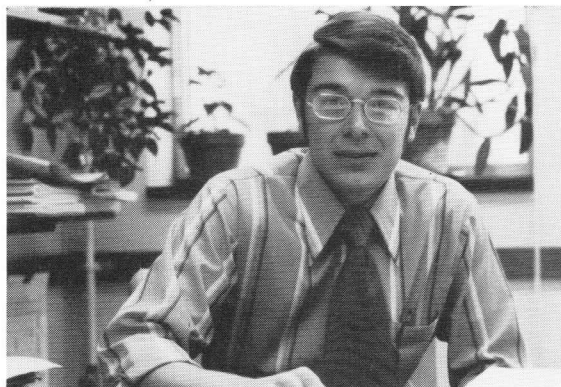
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Photosynthetic Efficiency of Woody Plants

By Dr. DONALD I. DICHMANN

Professor, Iowa State University



The photosynthetic process is essential to life. Not only are the carbon skeletons that form the structural basis for plants and animals synthesized during photosynthesis, but the energy needed for their maintenance and increase is captured in useable forms from sunlight. Consequently, the photosynthetic process has received unrivaled attention by plant physiologists.

Recent discoveries in photosynthetic research have revealed that not all plants photosynthesize by the same physiological mechanism. Calvin plants, named after the Nobel laureate who elucidated their physiology, are considered less efficient photosynthetically than Hatch-Slack plants, named after the two Australian scientists who discovered them. Most plant species are Calvin plants, but a number of important plants, such as corn, sorghum, sugar cane, pigweed, and crabgrass, fall into the more efficient Hatch-Slack group. Hatch-Slack plants appear to be adapted to more tropical environments where extremes of light, temperature, and aridity prevail and are generally considered more productive.

What about trees and other woody plants? Tree physiology research had not clearly established whether trees were Calvin or Hatch-Slack by nature. Early last summer Dean Gjerstad, a graduate student in forest biology, and I set out to provide a clearer answer to this question.

METHOD OF STUDY

When a leaf or twig is placed in a closed environment in the light, its photosynthesizing tissue will extract carbon dioxide from the air until the rate of photosynthesis and the rate of respiration,

a process that releases carbon dioxide, are in equilibrium. This equilibrium level is known as the carbon dioxide compensation point.

For Calvin plants the compensation point usually falls between 50 and 60 parts-per-million (ppm) carbon dioxide. That is, when the carbon dioxide concentration reaches this level, the leaf cannot photosynthetically extract any more carbon dioxide from the air due to the compensatory release of carbon dioxide by respiration. The efficiency of Hatch-Slack plants is revealed by the fact that their compensation point is near zero. In other words, they can photosynthetically capture all carbon dioxide from a closed environment, plus any that is being released by respiration. Thus, determining the compensation point of a leaf gives a direct clue to its photosynthetic physiology.

In our study Dean and I used a simple yet accurate technique for determining compensation points. A leaf or twig was sealed in a plastic bag, the bag inflated with air, and after one hour in the light the carbon dioxide level of the air in the bag determined with an infrared gas analyzer. Due to the amazing diversity of tree and woody plant species growing on the Iowa State University campus, we were able to measure compensation points of 69 different species and hybrids, representing virtually the entire taxonomic spectrum of woody plants.

RESULTS OF THE STUDY

The table summarizes the results of our study. Every species and hybrid measured had a carbon dioxide compensation point that fell in the range associated with the photosynthetically less efficient Calvin plants. However, these results do not preclude the existence of a Hatch-Slack woody plant, since we could not measure every tree species. In our attempts to increase forest productivity the search for a more efficient, productive Hatch-Slack tree should continue. The development of an intensive silvicultural system around such a tree, if found, promises to significantly increase production of wood fiber.

TABLE 1. Carbon dioxide compensation points of 69 woody species and hybrids.

Taxonomic group	Compensation Points (ppm CO ₂)	
	Mean	Range
14 Conifers	62	52-72
39 Hardwoods	60	49-71
16 Poplar hybrids	58	50-68

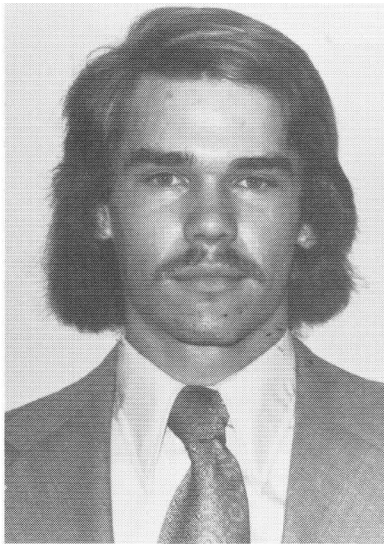
SENIORS

WORK ?.....

I'M A
MANAGEMENT
GRADUATE!



Don Krieger



DAVE ANDERSON

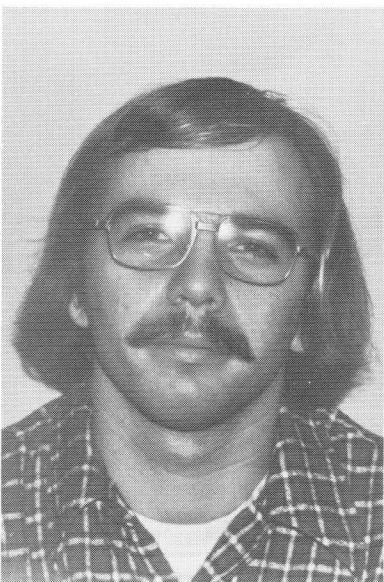
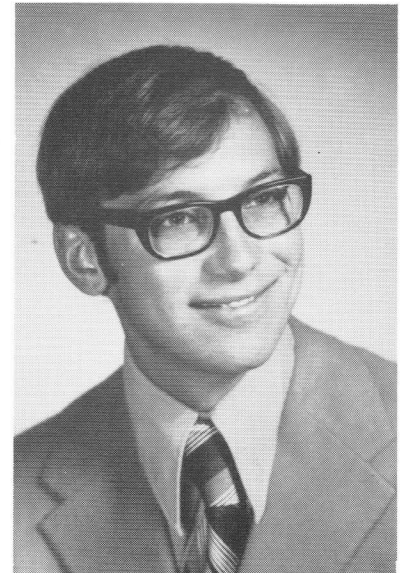
Outdoor Recreation

Dave is from Des Moines, Iowa, and is married to Virginia. He worked this past summer at Lake Panorama in golf course maintenance. Dave enjoys fishing, camping, and hiking, and hopes to find a job in resource planning following graduation this spring.

MIKE BONDI

Forest Management. Soils

Mike is from Edina, Minnesota, and will graduate this May. Mike attended the New York State Ranger School Camp of 1970. Since then he has served one summer with the Iowa Conservation Commission at the State Forest Nursery in Ames, working on a soil management plan for the area. This past summer, Mike worked for the Forest Research Institute of Finland at a tree breeding experiment station. There his work included collection of data, field work, controlled crossings, etc. Following graduation, Mike is hoping to continue his education. He is applying to graduate school in forest soils and is an applicant for a Fulbright Fellowship to New Zealand. In addition, he has interviewed with the Peace Corps. Mike has been active in his college days as a member of the ISU Honors Program and student representative for the Ag College Honors Committee. He has served as Treasurer, and more recently as President of the Forestry and Outdoor Recreation Club; he was the business manager of the Ames Forester for two years and is currently our senior editor; Mike has served as a Head Resident for two years in the TRA; he is member of Xi Sigma Pi, Alpha Zeta, Gamma Sigma Delta, was awarded the Milton Cone Forestry Scholarship for 1972 and was a participant in the George B. Hartman Travel Fund to the National SAF meeting this past fall in Hot Springs, Arkansas. Mike's hobbies include hiking and backpacking.



JOHN DUEBEN

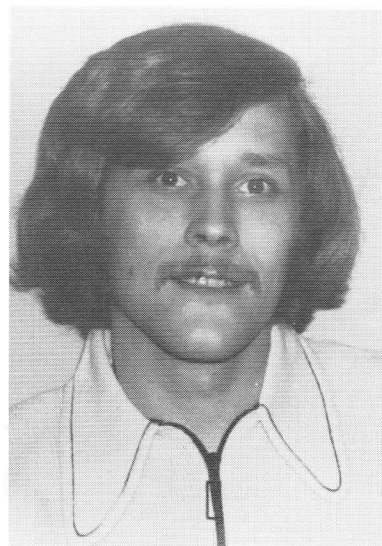
Forest Products. Forest Products Business

John is from Clifton, New Jersey, and attended Camp in New York in 1970. John has worked for the past five summers as a camp counselor and waterfront director at Camp Michikamau, Bear Mountain, New York. He has served as an ISU Chairman of the Board of Directors for ISPIRG, member of the Forest Products Research Society, the historian of Phi Gamma Delta fraternity, and as an ISU Volunteer. John's hobbies include sports and environmental problems. Following Fall graduation, John hopes to go into saleswork in addition to continued activity in environmental groups.

TOM DULL

Outdoor Recreation. Communications

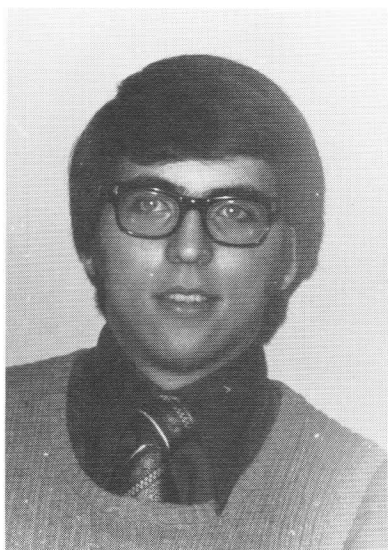
Tom and his wife, Patti Bea, have a daughter, Terri, 5 years old. "T.C." is from Delta Junction, Alaska, and following graduation last winter he had hopes of returning to that country to work as a State Park Ranger, or as a BLM Natural Resources Specialist. Tom worked the summers of 1969, 1970, and 1971 as a fire control aide for the BLM and this past summer as a recreation aide for the same organization. 1972 also marked the year when Tom received his 10-year pin from the Interior Department. Tom was the last president of the Outdoor Recreation Club before consolidation with the Forestry Club two years ago. He is a member of Xi Sigma Pi, Editorial Staff member of the ISU Daily and Tom is on the Undergraduate Education and Awards Committee.



FRAN ECK

Forest Management. Business

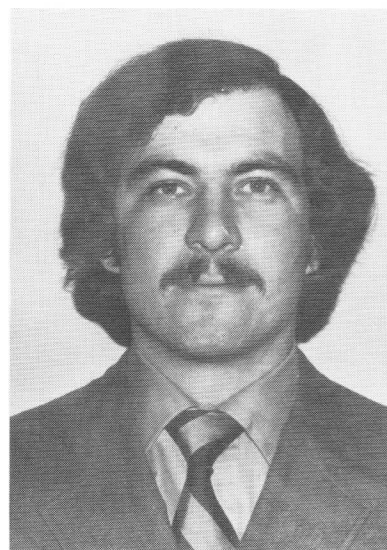
Fran is from Fox River, Illinois, a Chicago suburb, and will graduate this May. After attending the 1970 New York State Ranger School Camp, Fran has been employed two summers with the U.S. Forest Service, on the Black Hills National Forest. His 1971 summer was spent as a timber marker and this past summer, Fran was promoted to crew leader on inventory crew. He is a member of the Iowa State Honors Program, Xi Sigma Pi (Ranger), and a Head Resident in the Towers Residence Association for the past two years. Fran enjoys camping, canoeing, snowmobiling, and tennis. He likes "shooting the bull" best of all and follows a philosophy of "taking it easy." After graduation, Fran may either study in graduate school in business administration or he may "go out and work."



BRUCE FISHER

Forest Products. Timber Conversion

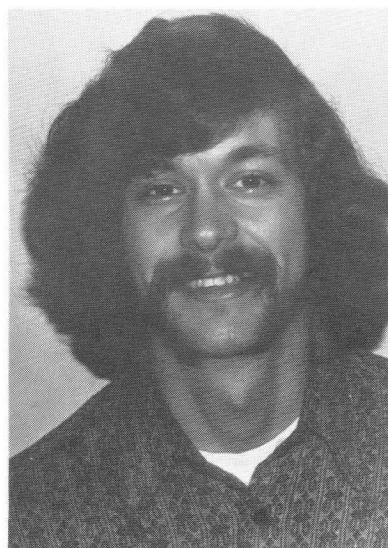
Bruce is from Alden, Iowa, and is the father of two boys. His wife is Sherre and his sons Jeffery and Karl are 4 and 1½ years old, respectively. During the past summer he worked in Hoquiam, Washington, and the previous summer he attended the Harrington, Quebec, Canada Summer Camp. Bruce enjoys hunting, golf and antique collecting. He graduates in May.

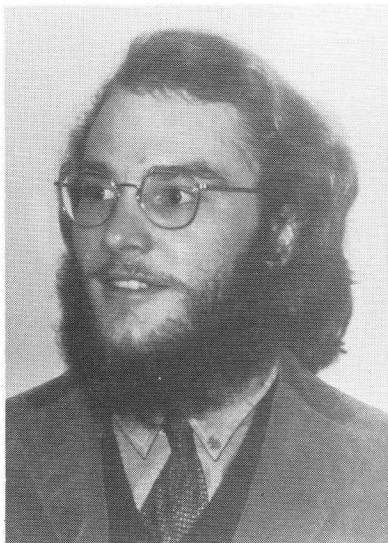


LARRY GNEWIKOW

Forest Management. Outdoor Recreation

Larry, affectionately known as "Calf," is from Des Moines, Iowa. In addition to his Summer Camp in New York, 1970, Larry has worked the past two summers on the Three Lakes District of the Nicolet National Forest, Three Lakes, Wisconsin. After his first summer on a timber marking crew, he was promoted to crew chief of new recreation facilities, wildlife work, and timber marking. Larry is a member of Sigma Phi Epsilon Fraternity, where he has served on many committees. Following graduation next Fall, Larry hopes to work with the U.S.F.S. in either the North Central or Southeast Regions. He is also considering work with the Bureau of Indian Affairs.

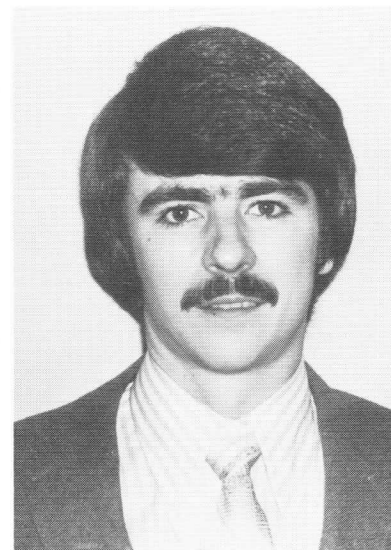




JOHN GREEN

Forest Management. Economics

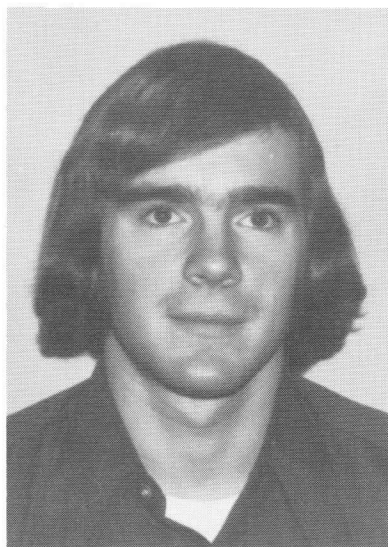
"Jock" is a Spring graduate from Waterloo, Iowa. He attended the New York Camp of 1970 and last summer he served with the United States Forest Service. His work on the White River National Forest, Colorado, revolved around a spruce beetle impact study. After graduation this May, Jock intends to study in graduate school.



JIM GUILLIFORD

Forest Management. Soils

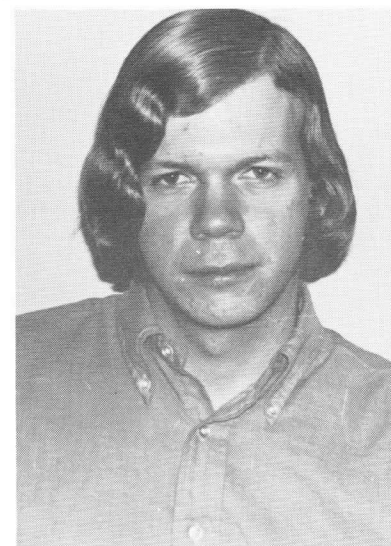
Jim is from Lombard, Illinois, and will graduate this spring. His Summer Camp was in Quebec in 1971. His summer work experience includes working last summer at a Forest Experiment Station in Finland, doing forest pathology research. His activities include Xi Sigma Pi (assistant forester) and Gamma Sigma Delta. He enjoys tennis and skiing. Following graduation, Jim plans to study in graduate school in forest biology.



LARRY HACH

Outdoor Recreation. Ecological Interpretation

Larry is from Dysart, Iowa and will graduate this spring. His plans after May include working for the National Park Service in the Northeast. Larry has worked two summers at the Otter Creek Lake and Park, Toledo, Iowa. His work there included nearly everything, in addition to helping with the actual construction of the park and its buildings. Larry enjoys jogging in his spare time. He, too, likes "sensible" people and says he likes to "live my life so that I will appreciate it, while at the same time, learning from my friends."



BILL HEIKEN

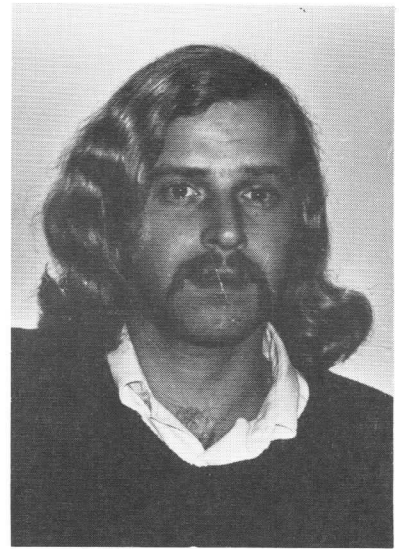
Forest Management. Soils

Bill, who graduates this May, is from Scotch Grove, Iowa. He attended the New York State Ranger School Camp of 1970. This past summer he worked on the Sierra National Forest on a timber stand improvement slash crew. After graduation Bill hopes to work with the U.S. Forest Service.

PAUL HELLENSCHMIDT

Forest Management. Multiple Use

Paul's hometown is Waterloo, Iowa, and he will graduate this spring. His summer work experiences include employment at the Des Moines City Nursery this past summer, as well as tree planting with a tree spade. A New York State Ranger School Summer Camp participant, Paul has no definite plans after May graduation. Paul's hobbies include furniture refinishing and bone sculpture.



RON HENRY

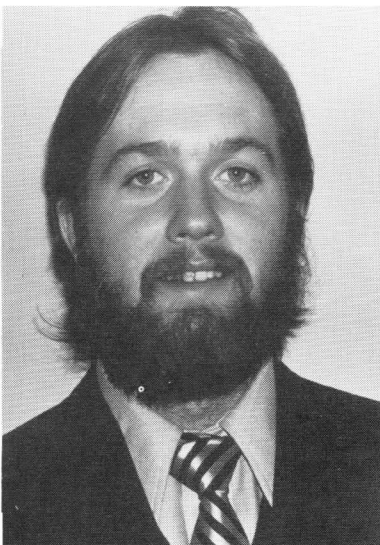
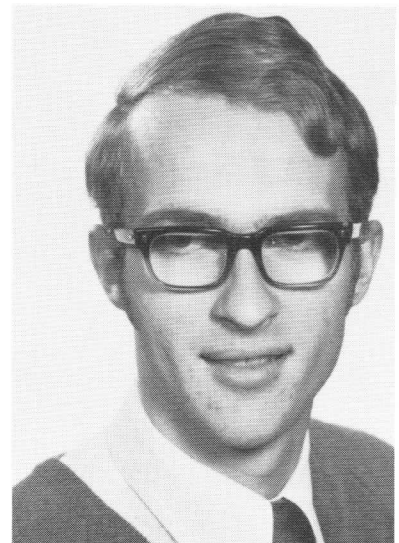
Forest Management. Forest Biology

Ron, a native of Garrison, Iowa, is married and graduated at the end of Winter Quarter. He and his wife, Nancy, live at the Strautman Tree Farm, where Ron is permanently employed. Since his Summer Camp in Quebec, 1971, Ron has been employed at the Tree Farm south of Ames during both summer and seasonal periods. Ron has been one of our most active members of the Forestry and Outdoor Recreation Club, serving as Christmas Trees Co-Chairman this past year, main cook at the Pig Roast last fall, and as Tract Committee Co-Chairman.

RANDY HOLL

Outdoor Recreation. Communication-Interpretation

A native of Conrad, Iowa, Randy attended the Spring 1972 recreation trip to Land-Between-The-Lakes, Kentucky. He has worked for two summers with the Marshall County Conservation Board in park and trail maintenance. Randy enjoys anything outdoors with canoeing, camping, and photography top on his list. He is a member of Xi Sigma Pi as well as the Forestry and Outdoor Recreation Club. Randy has served the club in a number of capacities: as our first club historian, Loquacious Loquat Newsletter editor, Holst Tract committee member, and 1973 Veishea display co-chairman. In addition, Randy has served as a Head Resident in the Towers Residence Association and will continue the Head Resident function in his household after his marriage this summer. Randy would like to work in either State or County recreation in an education and/or informational capacity after his graduation in May.



BOB HRUBES

Forest Management and Outdoor Recreation

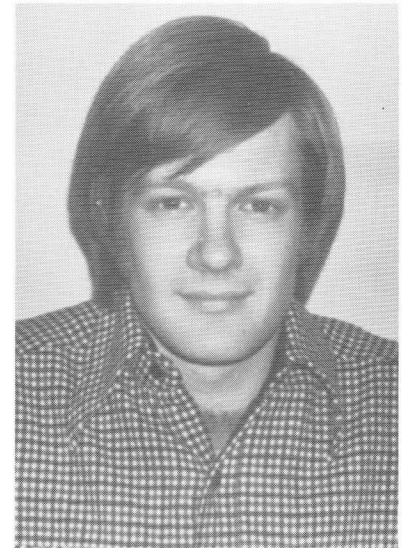
Bob is from Des Moines, Iowa. Two summers of work experience on the Okanagon National Forest followed his Summer Camp in New York, 1970. His work with the Forest Service involved pre-sale timber administration. After his May graduation, Bob will attend graduate school in forest economics.



WALT KALEN

Forest Management. Forest Recreation.

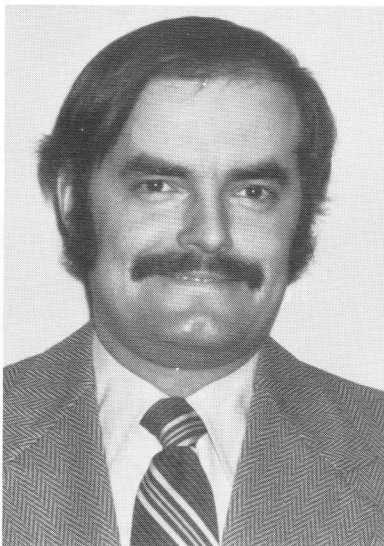
"Wally" and wife, Peggy, have one son, Jon, 3 years old. Walt is from Des Moines, Iowa and spent last summer with the city in its Forestry Department. There his work involved street tree removal and being in charge of summer help. Walt's Summer Camp was held in Canada (Quebec) in 1971. Walt graduated this past winter and hopes to find employment in industry or an urban forestry program. Walt was one of our more active F.O.R. club members, serving as social chairman this past year and as Christmas tree chairman two years ago. Wally enjoys snow skiing, duck and pheasant hunting, and golf. His philosophy is: "The harder you work, the luckier you get."



BOB KALLSTROM

Forest Management. Economics and Business

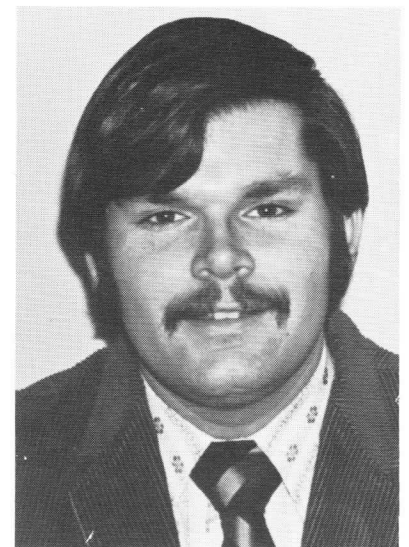
"Cruisin' Bob" hails from Hudson, Ohio, and will graduate this Spring. After four years at Iowa State, Bob has managed to maintain the highest cumulative grade point of all the foresters. He attended the Ranger School Summer Camp of 1970 and boasts of being an "expert truck driver." Bob's plans after graduation include getting out of Iowa, then possible grad school, work, or "just traveling." His likes include, first, Athens, Ohio (where his girl is), and second anything outdoors. While at ISU, Bob was a member of Xi Sigma Pi, Curriculum Committee for the F.O.R. Club, and was named the "Keith M. Bauer Memorial Award" winner for being the outstanding sophomore.



HARRIS KRAMER

Forest Management. Business

"Stoney," from Cedar Falls, Iowa, is married and the father of a daughter, born December 21, 1972. Since his summer camp in Harrington, Quebec, Canada in 1971, Stoney has spent one summer in Hot Springs, Arkansas as a Weyerhaeuser intern. Following graduation he hopes to work in industrial forestry. Stoney and wife, Barbara, formerly lived in University Married Student Housing where he was a councilman. Stoney graduates this Spring.



STEVE LENIUS

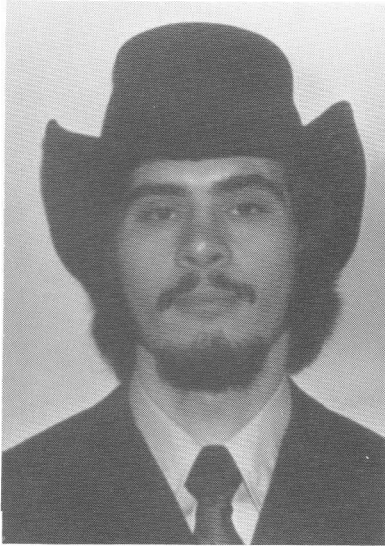
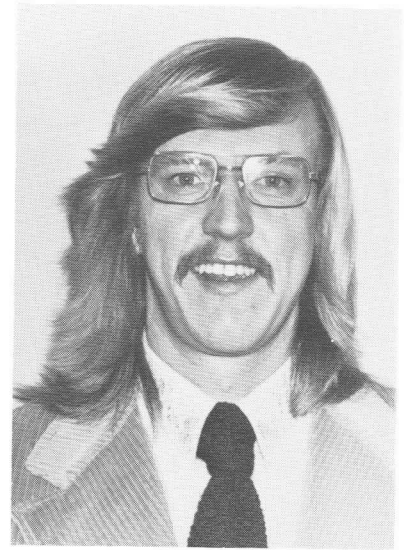
Forest Management. Recreation

Steve is from Van Meter, Iowa, and attended the 1970 Ranger School Camp. Steve's work experience includes two summers on the White River R.D. of the Snoqualmie National Forest, Enumclan, Washington, as a fire control aide and an aide in public relations. Besides being a member of the F.O.R. Club, Steve enjoys hunting, fishing, camping, and "cat skinning." After his graduation in the Spring, Steve will resume work for the U.S.F.S. on the Snoqualmie in timber management.

TOM LINDER

Forest Management. Forestry Business

"Big Tom," an avid Tae-Kwon-Do karate expert, is from Elm Grove, Wisconsin. Since attending the Ranger School Camp of 1970, Tom has worked for two summers with Owens-Illinois in the Forest Products Division, Tomahawk, Wisconsin. There his work included stand description, APA research and train design. In addition to serving as House President in the Residence Halls, Tom is a member of the Delta Chi Fraternity and F.O.R. Club. His general philosophy, "think fast and act with power," is reflected in his Number 1 ambition following graduation; Trans-Am European Racing School in England.



GREGG LINN

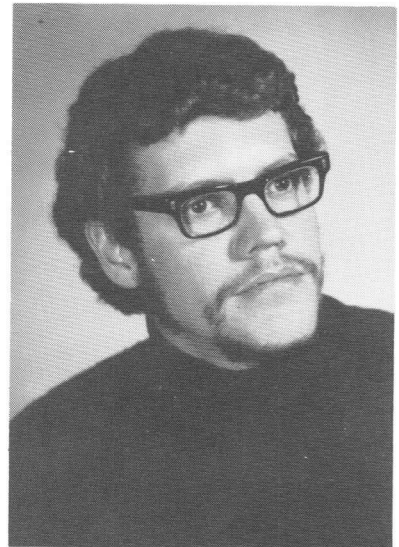
Forest Management. Watershed Management

Gregg is from a suburb of Chicago, Illinois. A May graduate, Gregg attended the 1971 Summer Camp at Quebec. His summer experiences include one summer with the Forest Preserve District of Cook County, Chicago, and one summer with the Forest Service on the Hahn's Peak District of the Routt National Forest, Steamboat Springs, Colorado. Gregg's U.S.F.S. work involved timber sales, cruising, boundary marking. As an active member of the Forestry and Outdoor Recreation Club, Gregg served as social chairman a year ago and will be our Spring Forester's Day chairman this April. His likes include alcoholic beverages, tall girls, and black hats. Gregg's philosophy of life reads: "Why not!! You only live once." After graduation, Gregg would like to go to grad school in environmental and recreation resources planning.

AL MALLETTE

Forest Management. Fisheries and Wildlife Biology

"Big Al" hails from Atlantic, Iowa, and will graduate this May. Among other big activities in his future, will be marriage in June and hopes of finding a permanent job in Forestry. "Big Al" has had two years of work experience with the U.S.F.S. on the Black Hills National Forest, Harney District, with his main activity being tree marking. Summer Camp was in New York, 1970, for Al. He has followed his philosophy that "If it's worth doing, it's worth doing well!" as the Vice-President of Webber House in the TRA and as Senior Representative on Ag Council for the F.O.R. Club.



SUZIE MCGRAW

Outdoor Recreation. Recreation and Interpretation

Suzie is from Cedar Falls, Iowa and will graduate in May. She enjoys sewing, camping, canoeing, music. From May 1 until June 16 Suzie will be participating in the six week European tour with the Iowa State Singers. She has six months of summer field study at Camp Hantessa, Camp Fire Girls, Boone, Iowa. There she worked as a counselor and assistant pool manager. Suzie also developed a new nature program for girls based on Steve Van Matre's book, *Acclimitization*. Following graduation she hopes to work in community recreation dealing with the fine arts, go into extension work, or youth group work. Her campus activities include: vice-president of her RCA house, Oratorio chorus, Iowa State Singers, Cardinal Keynotes, MACURH, Sor-Dor, O-Rec Club, Environmental Action, and Xi Sigma Pi honorary. Suzie sums things up by saying, "I hope that I can leave something useful wherever I am or do something for people, since I have been given so much by others."

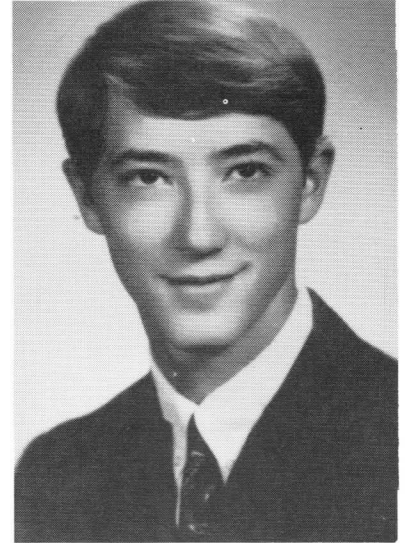




PAUL MEILIKE

Forest Management. Forestry Business

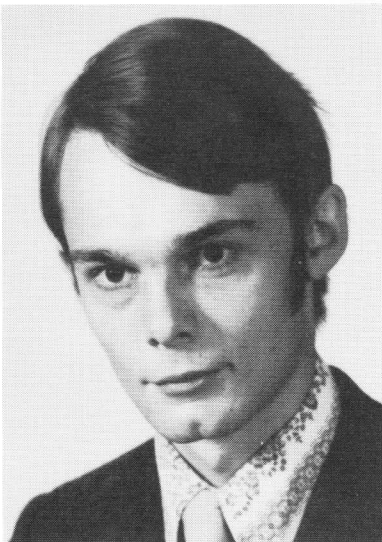
Paul's home is in Des Moines, Iowa, and for the past two summers he has served as an aide to the City Forester of Des Moines. A member of Xi Sigma Pi Honorary, the Undergraduate Education and Awards Committee, Forestry and Outdoor Recreation Club, Paul is a recipient of the Knights-of-Ak-Sar-Ben scholarship. His favorite pastimes include "riding my Honda about the countryside, trap shooting, and pheasant hunting." The 1970 Wanakena, New York Summer Camp participant will graduate next Fall and after graduation hopes to land a job with some forestry-related business or the Forest Service. Paul says; "If unlucky, maybe a two-year stint with Uncle Sam; if lucky, marriage with a girl who has helped make four years at ISU more enjoyable."



BRUCE MIEHE

Forest Management. Forest Biology

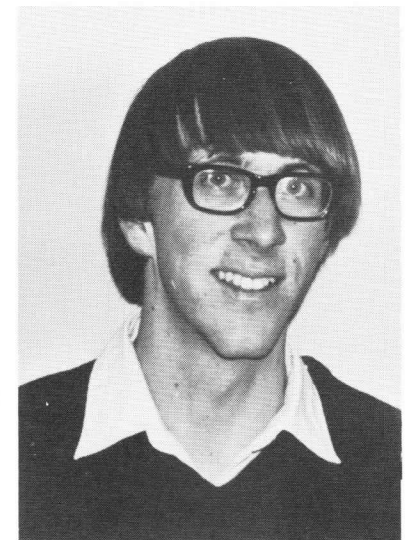
Bruce and his wife, Melody, have one son, a year and one-half old. In addition to being a member of Phi Delta Theta Fraternity and S.I.M.S. member, Bruce enjoys primitive camping, fishing, hiking, and "martial arts." Since Summer Camp at the Ranger School in New York, 1970, he has worked with the Iowa Conservation Commission on the Yellow River State Forest. There his work involved pruning and thinning black walnut plantations, as well as recreation maintenance. Following graduation next Fall, Bruce's plans are uncertain.



JACK NIEWOEHNER

Outdoor Recreation. Landscape Architecture

Jack is married and lives with his wife, Randa. He is from Elkader, Iowa. He has worked with the Clayton County Conservation Board in Iowa for two summers in park maintenance, design, and construction of nature trails, facilities, and signs. Upon his spring graduation, Jack hopes to work in the County Conservation program.



MARK PROESCHOLDT

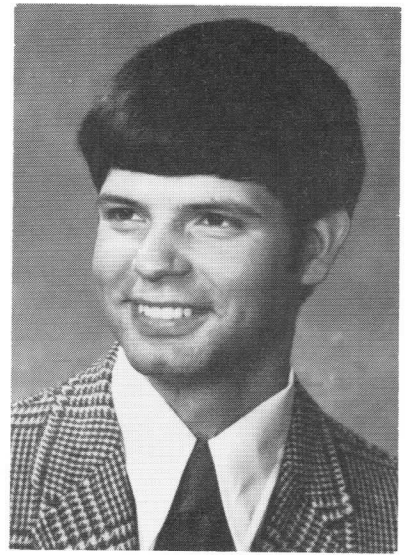
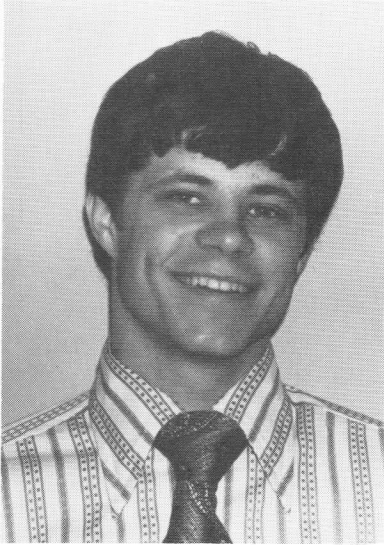
Outdoor Recreation. Communications-Interpretation

Mark is from Liscomb, Iowa, and will graduate this May. He participated in the first Outdoor Recreation Field Study Trip in April, 1972, to Land-Between-The-Lakes, Kentucky. Mark spends his summers in a high school canoe camping program that takes trips to the Boundary Waters Canoe Area every year. In addition, Mark is a member of F.O.R. Club, active participant in the University Lutheran Church, as well as being an active member of the Canoe Club at ISU. Mark enjoys outdoor activities as well as working with people.

TOM REED

Forest Management. Multiple-Purpose Forestry

Tom is married to Linda and is a native of Ollie, Iowa. His Summer Camp was held in Wirt, Minnesota, in 1968. Tom enjoys hunting, fishing, trapshooting, boat racing, and furniture refinishing, and says, "The best way to get what you want is to work." His college activities were held to a minimum due to school expenses, although Tom does boast of being the 1967 Intramural Trapshoot Winner with Larry Mallette, '68. Tom's plans after graduation this Spring include being a happily married man with a steady job.



MEL RILEY

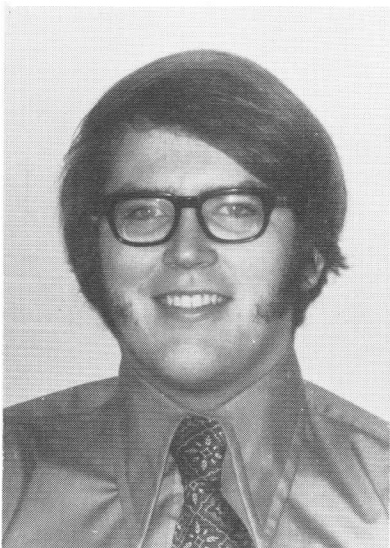
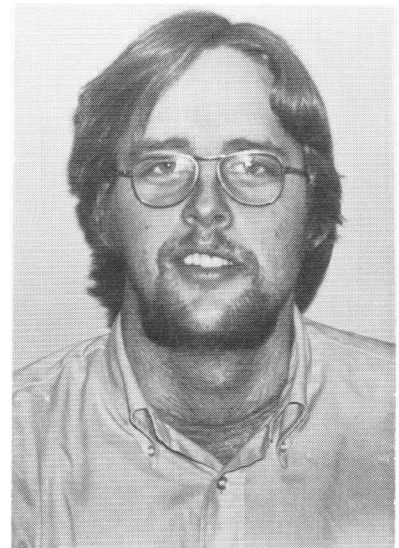
Forest Products. Timber Conversion

Mel is married and lives with wife, Jan, in Des Moines. His hometown is Grinnell, Iowa. He attended the New York State Ranger School camp of 1970. Mel spent the 1971 summer as a member of a helitack crew for the Forest Service in Luna, New Mexico. Last summer he worked for the Jewett Lumber Company in Des Moines. Mel has served as social chairman and as intramural chairman in his Residence Hall house. Mel is a member of the Forest Products Research Society and will graduate in May.

CRAIG SCHEINOST

Outdoor Recreation. Landscape Architecture, Planning, Design

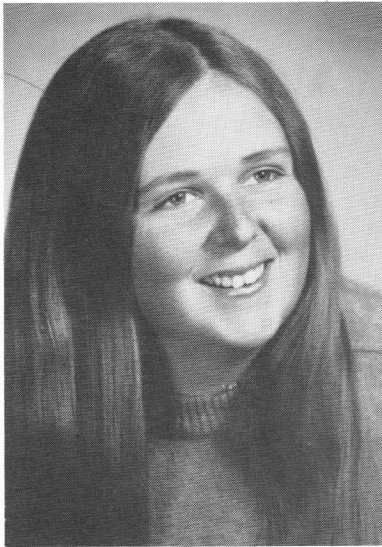
Craig will graduate in May. He traveled to Land-Between-The-Lakes, Kentucky, on the Outdoor Recreation field trip. During the summer of 1971, he was a lifeguard, maintenance man, and construction crew worker at the Hickory Hills Recreation Area of the Blackhawk County Conservation Board. This past summer Craig served on the lake patrol at Lake Manawa State Park in Council Bluffs, Iowa. He has served as both social chairman and treasurer of his residence hall house and has acted as a counselor at the Ames community drop-in center, Busstop. Craig has also worked as an assistant in the Forestry department library and has been involved in the Ames Reservoir research through work-study. Craig says "I am a liberal Democrat and quite a liberal thinker and doer." He also considers his attitude toward natural resources as one of "conservationist-preservationist." After graduation, Craig hopes to work on a hazardous-duty fire crew with the Forest Service.



JACK SCHLATER

Forest Management. Range Management

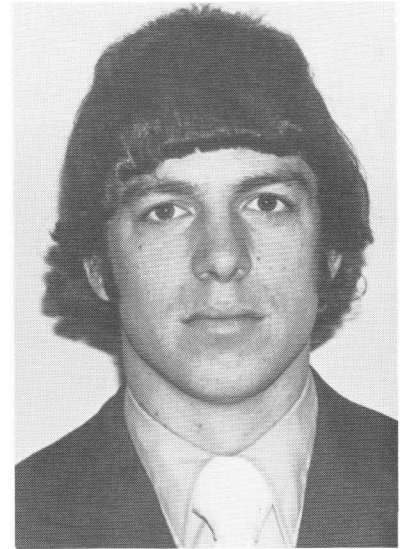
Jack graduates next Fall and following that event, will stay at ISU to pick up a degree in Fisheries and Wildlife Biology. With two natural resource management degrees, he hopes to work out West, managing government lands. Jack, who hails from Exira, Iowa, attended the 1970 New York Camp and has also spent one summer with Stephen's State Park in Chariton, Iowa, doing timber cruising and type mapping. His hobbies include hunting, fishing, and nature photography. He likes "being outdoors;" also traveling. Jack's biggest dislike is crowds.



BARB VOGT

Outdoor Recreation. Public Service and Administration, Physical Education Recreation

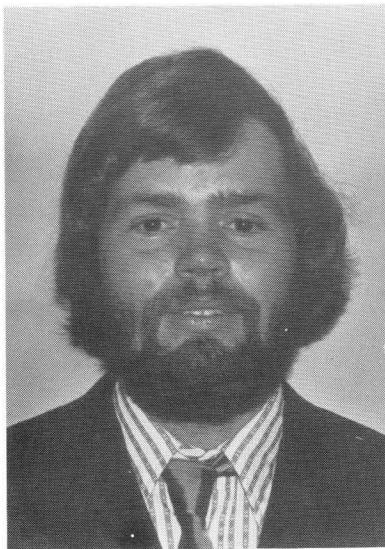
Barb is from Grinnell, Iowa, and will graduate this May with a triple major. She has worked for two summers with the State 4-H Camp Program on the conservation staff and in nature instruction. She has also served the past three summers at the Iowa State Fair on the Youth Inn staff, acting as supervisor in 1972 of girls dormitories. In addition, this past summer she worked with the Minnesota Extension Service as a camping assistant, assisting in the production of day-camps across the state. While at Iowa State, Barb has served as the fiscal agent of Xi Sigma Pi, member of Campus 4-H and named their Outstanding Member in 1971-72, as well as participating in the Recreation Club and F.O.R. Club.



MIKE WEGER

Forest Management. Fisheries and Wildlife Biology

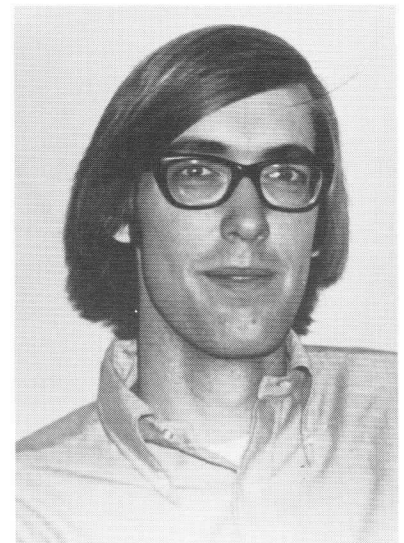
Mike calls Strawberry Point, Iowa, his hometown and plans to graduate this Spring. After attending the 1971 Quebec, Canada, Summer Camp, Mike worked last summer for the Forestry Department, City of Des Moines. His work included various phases of urban forestry, as well as work on a street crew, operating equipment, etc. Besides a member of the F.O.R. Club, Mike has served as a Residence Hall House Vice-President in the Richardson Court Association. Hunting, fishing, wildlife study, and farm work head Mike's list of hobbies; "locating a job" is his primary goal after graduation.



BOB WENDEL

Forest Management. Watershed Management

Bob is from Manchester, Iowa and will graduate in the Fall. Following his summer camp in New York in 1970, he worked for two summers on the Flathead National Forest in Hungry Horse Mountain, Montana. His work there was involved with Stage II survey, recon and stocking. He also held duty in fire control and thinning. Bob's hobbies include music, guitar and the flute, not to mention hunting and fishing. After graduation, he hopes to work with the U.S.F.S.



DICK WIECK

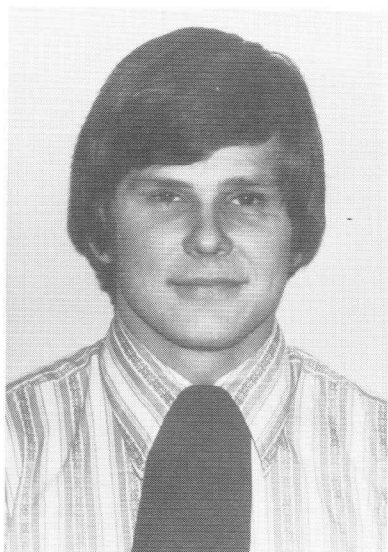
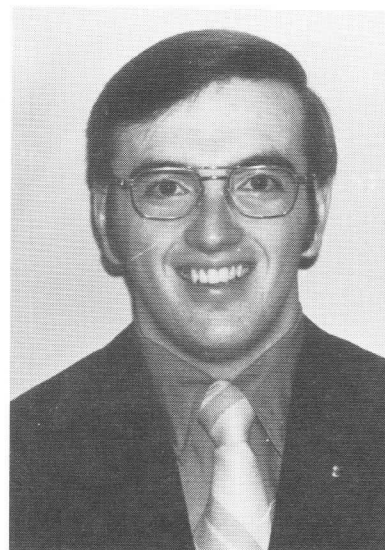
Outdoor Recreation. Urban and Regional Management

Dick will graduate next Fall and then hopes to find employment in either County or State-level recreation departments in Minnesota or the Northwest. His summer work includes house painting in his hometown of Dysart, Iowa, as well as campground attendant and maintenance man at Pinnicon Ridge State Park, Linn County, Iowa. Dick served as a scholarship chairman in his residence hall house and names basketball, fishing, woodworking as hobbies.

BRUCE WIGHT

Forest Management. Soils

Bruce, a native of Winterset, Iowa, has maintained an active career in college activities, as well as excellent grades. Besides membership in Acacia Fraternity and its Vice-President, Bruce was President of the Computer Science Club, Xi Sigma Pi Honorary, student member of the SAF, Veishea Display Co-Chairman, Pep Band, and Ski Club member. He enjoys hunting, fishing, and hiking as well as reading and listening to good music. Since Bruce's Summer Camp in Quebec, 1971, he has worked with the Soil Conservation Service as a soils student trainee in Clark County. Following graduation this Spring, Bruce hopes to work for the SCS.



ART WIRTZ

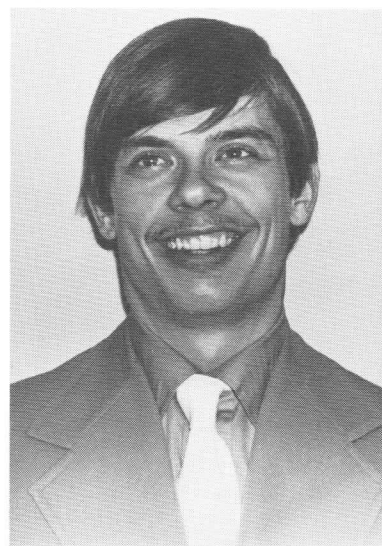
Forest Management. Biology

Art and wife, Kathy, are from Ames, Iowa. When he graduates next fall, he would like to work with the Forest Service in the Southwest or possibly in urban forestry. Art is the Forestry and Outdoor Recreation club member who did all the work on the club t-shirt ordering this past year. He is also an avid bow-hunter and water skier. Art has seen work experience with the Forest Service in Cloudcroft, New Mexico, where he worked on timber cruising and marking, tree planting, and fire patrol. Art attended the 1972 Harrington, Quebec, Canada camp.

RON WITT

Forest Products. Industrial Engineering

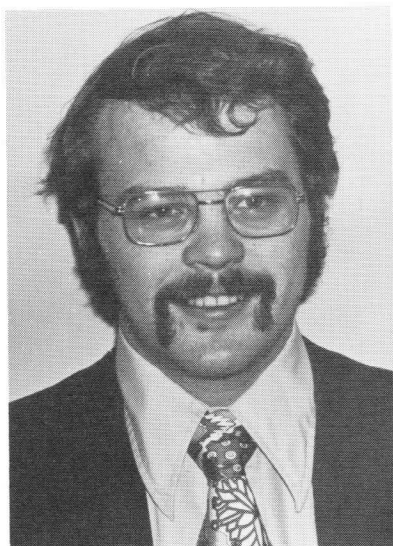
Ron is married to Beverly and hails from Davenport, Iowa. He attended the Harrington, Quebec, Canada Summer Camp of 1971. This past summer Ron worked as a research assistant in the Forestry Department. Ron has been a loyal supporter and active member of the Forestry and Outdoor Recreation Club. He served as the student-faculty relations chairman last year and this year he has served as co-chairman of the Christmas tree sales and as intramural chairman. Ron's favorite hobbies include hunting and fishing. Following graduation this spring, Ron hopes to find employment in a wood-using industry.



ANNLEE YOUNG

Forest Management. Watershed Management

Ann is from Des Moines, Iowa, and plans to study for her Master's Degree following graduation this Spring. Her work experiences include one summer as crew leader of a Youth Conservation Corps Group and Forestry Aide on the Sparfish District of the Black Hills National Forest Area in South Dakota. Last summer, Ann served in recreation maintenance and clean-up on the Alpine District of the Apache National Forest, Arizona. Besides being a member of Xi Sigma Pi, Ann has served as chairwoman for Project Recycle and for the Environmental Action Group. She is also our F.O.R. Club Representative to the Ames Conservation Council and a member of the ISU Honors Program.



RANDY ZIMMER

Forest Management. Multiple-Use Forestry

Randy, a spring graduate, is from Fort Madison, Iowa. His summer camp was held in Quebec in 1971. This past summer, Randy worked as a forestry aide in the San Juan National Forest, Durango, Colorado, on timber survey. He has been a member of the Forestry and Outdoor Recreation Club and served as chief cook at our pig roast last fall. Following graduation Randy says he would like "to find a job—anywhere!"

STEVE PHILLIPS

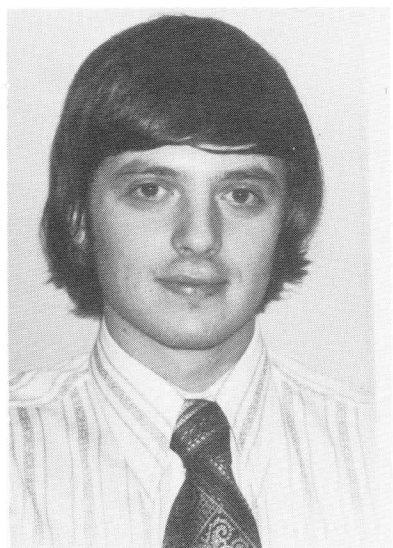
Outdoor Recreation. Agronomy and Forestry

From Gardner, Illinois, Steve will graduate in May and plans to get married and hopefully work for the Soil Conservation Service. He has worked for two summers doing farm work and two summers in a paper mill, employed in the "wetend" or felt paper production. Steve "likes to have a good time and hates studying."

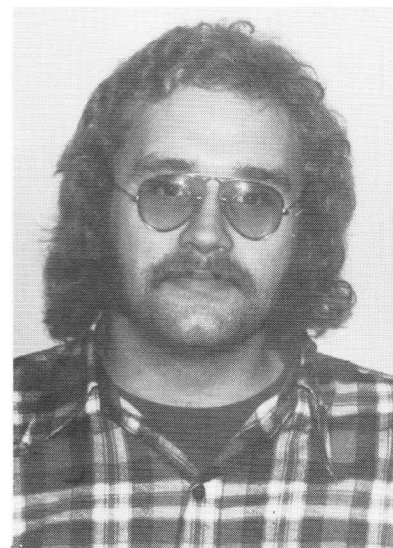
MARVIN MORRIS

Outdoor Recreation. Zoology

Marvin is from Boone, Iowa, and will graduate this spring. He has worked for the Boone Park System as a park attendant and has been employed by the Mitigwa Scout Reservation, serving in programming, instruction, maintenance, and health care. Marv is also a student representative to the Story County Red Cross Association and a student member on the National Recreation and Parks Association.

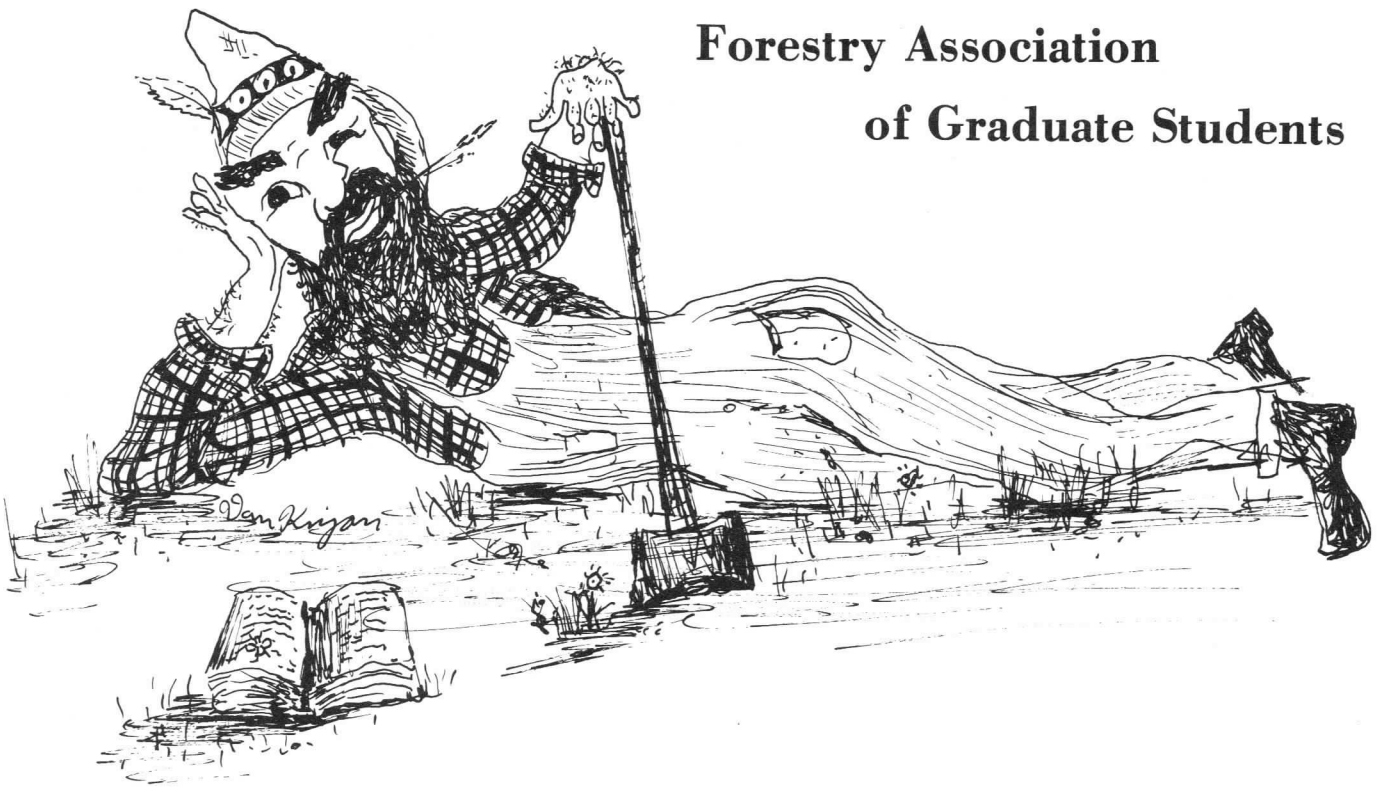


Brian Leopold



Regan

Forestry Association of Graduate Students



Front Row L. to R.: Doug Ljungren, Gene Campbell, Dave King, John Paul. Second Row L. to R.: Jeff Dawson, Wendy Cheng, Bill Hoover, Hason Vurdu. Third Row L. to R. Paul Wray, Tom Hemmessey, Tim Max, Greg Jones.



FAGS



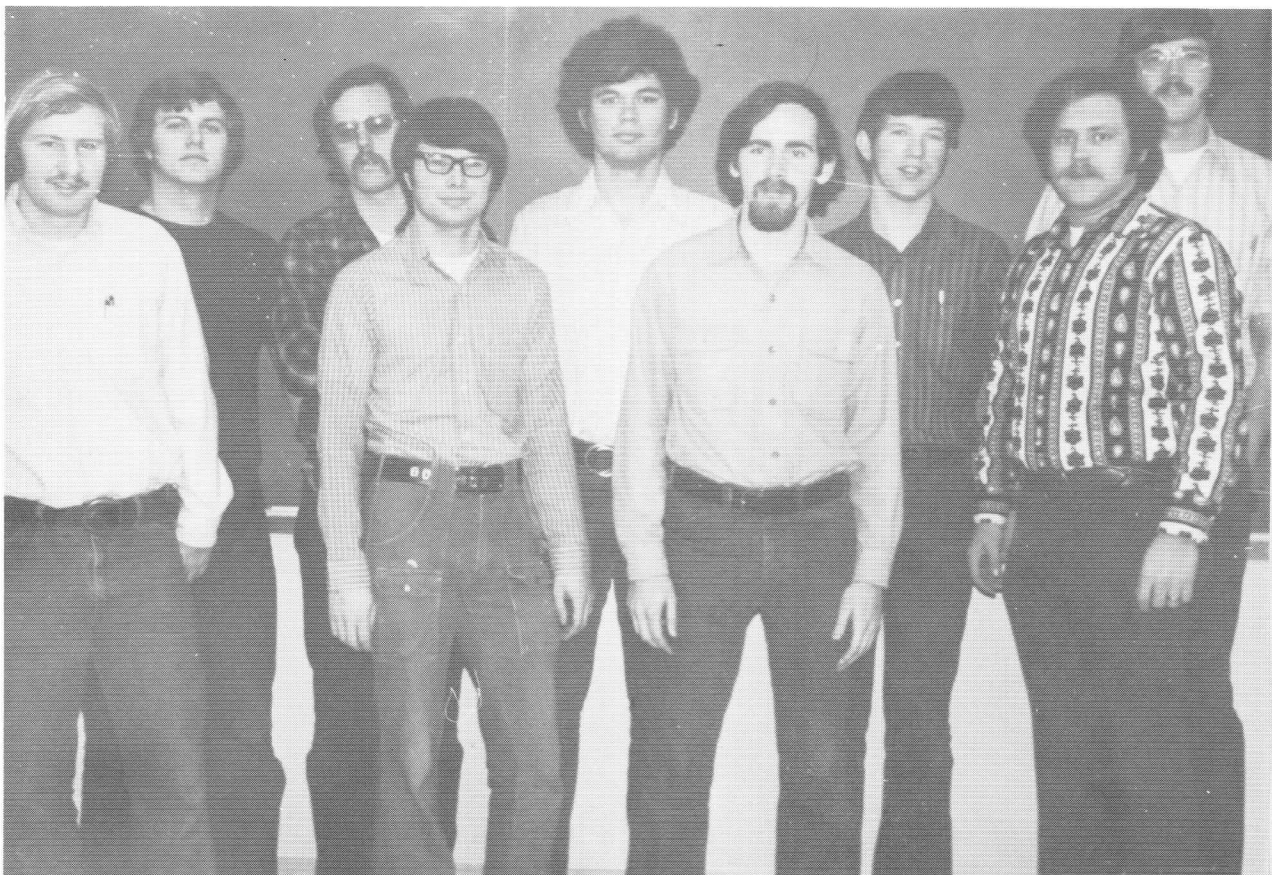
UNDERCLASSMEN

Back Row L. to R.: Joe Kaisertichs, ?, Carl Ramm, Gordon Elbert, Burton English, Michael Giles, Gary Waters, ?, Charles Maynard. Middle Row L. to R.: Roger Mercer, Kurt Johnson, Earl Parks, Gary Trussell, Bill Bern, John Miller, Kurt Quade. Front Row L. to R.: Steve Lehanbauer, Yeh Tien-Shun (George), Rick Yang, Duane Sember, Gary Martinsen, Art Wirtz, Linda Wrage.




JUNIORS

Back Row L. to R.: Dan Lawther, Joe Matejka, Phil Brand, Darvin Clauson, Brian Long. Front Row L. to R.: Jim Hannen, Paul Overturf, Paul Pingrey, Ron Gardner.



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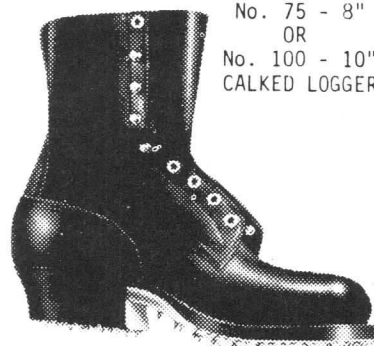


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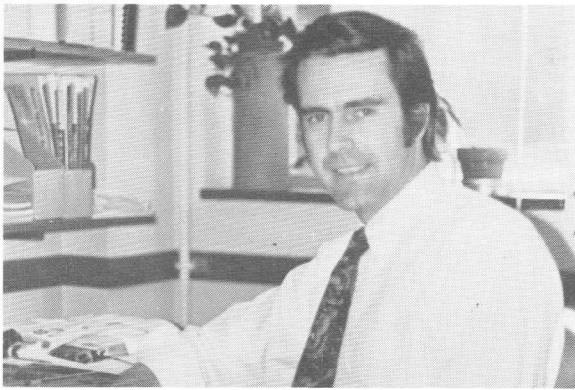


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FACULTY





DWIGHT W. BENSEND, PH.D.
Professor of Forestry
Wood Technology, Wood Liquid Relations,
Wood Composite Products
Properties of Wood, Wood Formation,
Wood Science Research

Dr. Bensend received his B.S. and Ph.D. from the University of Minnesota. While working for his graduate degree, he was an instructor on the Forestry teaching staff. After receiving his Ph.D., Dr. Bensend took a position on the research staff at the Forest Products Laboratory, Madison, Wisconsin. From there, he went to Utah State University as Associate Professor in Forestry. In September of 1947 he joined the Iowa State staff as Professor of Forestry. He took leave from Iowa State in 1961-62 to take an assignment at the University of Indonesia, Bogor, Java. Dr. Bensend is past chairman of the Midwest Section of the Forest Products Research Society and currently a trustee on the Board. He is also a trustee on the national Board of the Society of Wood Science and Technology and Chairman of the National Education Committee. He is chairman of the Department of Forestry Curriculum Committee as well as a member of several other committees. He is one of the wood anatomy technical reviewers for the Forest Products Journal, Wood Science, and Wood and Fiber. His major research is in the areas of wood anatomy and wood properties.



WENDELL G. BEARDSLEY PH.D.
Associate Professor of Forestry
Forest Recreation
Resource Economics

This is Dr. Beardsley's second year with the Department of Forestry. Dr. Beardsley has had considerable experience with the U.S. Forest Service in both the Rocky Mountain and Intermountain Forest and Range Experiment Station. He spent ten years with the Forest Service starting his career as a fire control aid, then forester, and finally serving in both forest-economics and cooperative outdoor recreation research projects. Dr. Beardsley is a forestry graduate of the University of Minnesota, with graduate degrees from both Minnesota and Utah State University. He is an advocate of outdoor activities of many kinds.



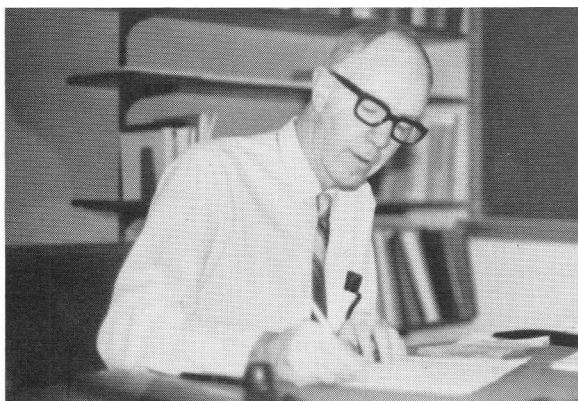
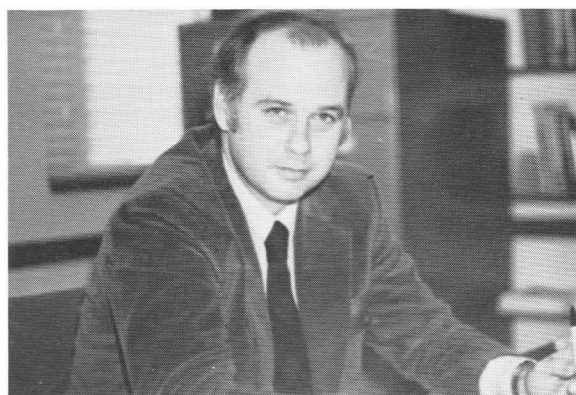
DONALD I. DICKMANN, PH.D.
Assistant Professor of Forestry
Forest Biology

Dr. Dickmann joined the forestry staff July 1, 1971. He is a forestry graduate of the University of Washington and received his Ph.D. in forest biology at the University of Wisconsin. Dr. Dickmann then spent a year in a special Forest Service pioneering research unit in tree physiology at the North Central Forest Experiment Station at Rhineland, Wisconsin. Before coming to Iowa State, Dr. Dickmann, was assistant professor of the Biology Department at West Georgia College. He is now teaching at both undergraduate and graduate levels while doing research in forest biology. Dr. Dickman's interests include hiking, fishing, classical music, photography and wood working.

JOHN C. GORDON, PH.D.

*Associate Professor of Forestry
Forest Biology, Advanced Silviculture,
Forestry Research Methods, Silviculture*

Dr. Gordon received his B.S. from I.S.U. in 1961. In 1961 and 1962 he studied at the University of Helsinki, Finland, under a Fulbright Scholarship. During this time he also worked at the Forest Research Institute of Finland. After receiving his Ph.D. from I.S.U. in plant physiology and silviculture in 1966 he worked as a plant physiologist on a Pioneering Research Project in Wood Formation with the U.S. Forest Service in Rhinelander, Wisconsin until his appointment to the staff. He teaches forest biology and wood chemistry. Dr. Gordon is married and has a 7-year old son. He enjoys almost anything when he is in the right mood.



FREDERICK S. HOPKINS, PH.D.

*Associate Professor of Forestry
Forest Economics, Economics Research*

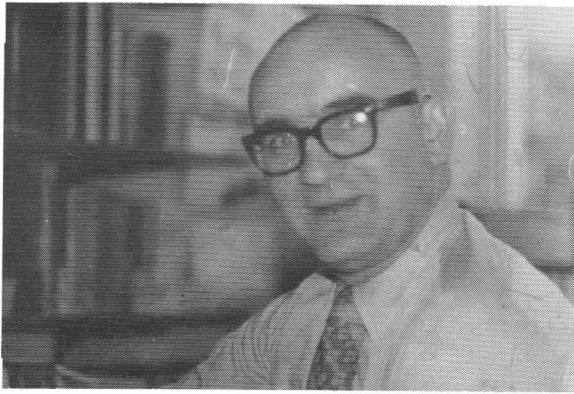
Dr. Hopkins joined the Iowa State Faculty in 1959. He obtained B.S.F., B.B.A. and M.F. degrees at the University of Michigan and his Ph.D. at Syracuse. Dr. Hopkins worked professionally with a consulting organization and private firms in the Northeast before embarking on an academic career. He taught at the University of Vermont and at Syracuse before coming to Iowa State. Currently, Dr. Hopkins is teaching courses in economics and policy in the new integrated resource management sequence. He is a member of the All-University Judiciary Committee. He is also chairman of the Iowa Chapter of the Society of American Foresters.

HAROLD S. McNABB, JR., PH.D.

*Professor of Forestry, Professor of Plant Pathology
Forest Pathology, Wood Deterioration
Frost Tree Diseases*

For 20 years, Dr. McNabb has taught at Iowa State. He was awarded his B.S. from the University of Nebraska in 1949 and his M.S. and Ph.D. from Yale in 1951 and 1954 respectively. During the summers of 1950 through 1952, Dr. McNabb worked on the Tropical Woods Project—Office of Naval Research. Dr. McNabb has traveled throughout Europe visiting with people in the profession, represented the U.S. as an official delegate at the FAO-IUFRO Symposium at Oxford, England and served in a similar capacity at the International Botanical Congress at Edinburgh, Scotland. Two of his recent projects included research in these general areas: relationships between soil fungi and plant roots, and host resistance reactions in woody-plant wilt diseases, the latter in cooperative studies with the Dutch and English. Dr. McNabb has been awarded a faculty improvement leave for 1973 when he will spend 6 months at the Forestry Commission Research Station at Farnham, England. He is chairman of the North American Committee on Elm Research. Besides his work in research and instruction, Dr. McNabb's interests include politics and working with youth having served as Ames School Board member, 1963–1972 and a scout-master for 17 years.



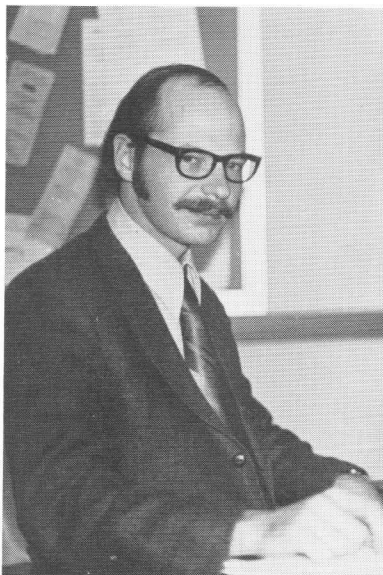


JOHN C. MEADOWS, JR., PH.D.
Assistant Professor in Forestry
Resource Allocation in Forestry

Dr. Meadows has been a staff member at Iowa State since August of 1968. He received his B.S. degree at Auburn University, his M.S. in Industrial Management from the Georgia Institute of Technology, and his Ph.D. degree from Duke University in Forest Economics. His research criteria for decision in timber management in the lake states. He was formerly Industrial Forest Engineer with International Paper Co., Mobile, Alabama, and a real estate broker. His hobbies include hunting, fishing, and playing with the computer.

DEAN R. PRESTEMON, PH.D.
Associate Professor in Forestry
Mechanical Processing, Physical Properties of Wood,
Advanced Topics in Wood Science

This is Dr. Prestemon's eighth year in the Department of Forestry. His B.S., M.S., and Ph.D. degrees were obtained at Iowa State University, the University of Minnesota, and the University of California, respectively. About 50 per cent of Dr. Prestemon's time is devoted to forest products extension with primary emphasis on the use and marketing of wood in residential construction. He is actively involved in continuing education programs for home builders and lumber dealers. The remainder of his time is divided between resident teaching and research. Dr. Prestemon teaches courses in physical properties of wood and mechanical processing. His research is focused on housing problems.



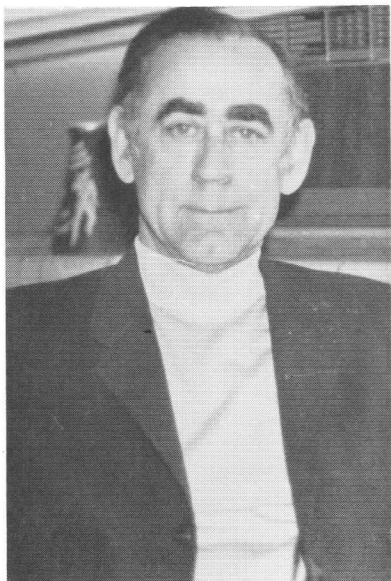
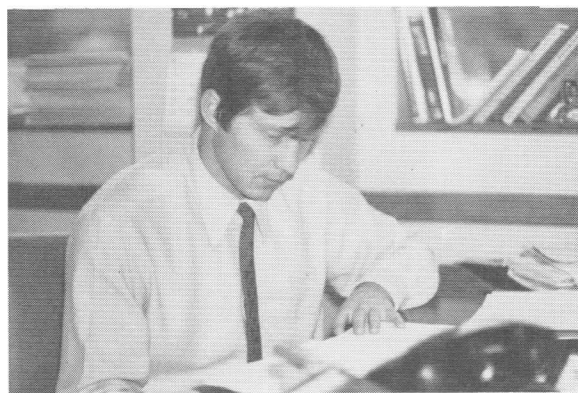
LARRY PROMNITZ, PH. D.
Assistant Professor
Forest Mensuration, Dynamics of Forest Stands.

This is Dr. Promnitz's first year as an assistant professor. He received his B.S. from I.S.U. in 1967 and his M.S. and Ph.D. from I.S.U. in 1971 and 1972 respectively. Larry is primarily involved in teaching the mensurational and more statistically oriented courses. Besides fishing and hunting, Larry finds time for amateur spelunking.

DIETMAR W. ROSE

Assistant Professor of Forestry

Dr. Rose is a native of Germany. He came to this country upon completion of his "Diplom" (equivalent to M.S.) in Forestry at the University of Freiburg, West-Germany in Nov. 1968. He received his Ph.D. in Forestry Economics in June 1972 at the University of Wisconsin, Madison, where he held a research assistantship for 3 years. He also taught Forest Mensuration for one semester at the University of Wisconsin before coming to I.S.U. in July 1972. His teaching responsibilities comprise undergraduate courses in forest mensuration and forest protection and a graduate course and seminar in quantitative methods. Dr. Rose's major research interests are in the area of modeling and systems analysis with a strong emphasis on biologically oriented problems. His hobbies include guitar-playing, photography, swimming, hunting and fishing. He also enjoys traveling and classical music. Since May 1972 Dr. Rose is a naturalized citizen of the U.S.



DR. WAYNE SCHOLTES, PH.D.

*Professor of Agronomy, Professor of Forestry
Beginning Soils, Forest Soils,
Soil Genesis*

Dr. Scholtes received his B.S. in forestry from I.S.U. in 1939, his M.F. from Duke University in 1940, and his Ph.D. from I.S.U. in 1951. In addition to his teaching, he is doing research on the evolution of the landscape in relation to soils. He was voted professor of the year by students of agriculture in 1960, and 1972 received the Gamma Sigma Delta award for distinguished service to agriculture in 1967, and received the National Agronomic Education award from the American Society of Agronomy in 1968. He received diplomas from the University of San Carlos in Guatemala for his teaching there in 1968 and 1969. He has been a visiting professor at the University of Illinois and at the University of Arizona. He is director of the Soil Science Institute at I.S.U. In addition to all of this, he holds the life-long self-appointed title of "Great Soil Scientist".

GEORGE W. THOMSON, PH.D.

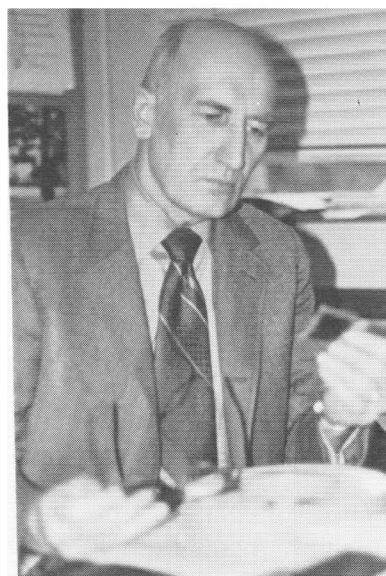
Professor of Forestry

*Forest Photogrammetry, General Photogrammetry,
Forest Management, Range Management,
Case Studies*

Summer Camp Mensuration

Introduction to Forestry.

Dr. Thomson became an undergraduate student at Iowa State in 1939 and has taught in the forestry department since 1948. He received his B.S., M.S., and Ph.D. degrees from I.S.U. Dr. Thomson has served as chairman for the Mensuration Section of the S.A.F. He directs or participates in most forestry camps. His teaching responsibilities lie with the introduction of forestry, two photogrammetry and photo interpretation courses, range management and forest management plus serving on more than 10 graduate program committees each year. Currently chairman of the agriculture honors program committee and secretary of Iowa chapter S.A.F. He is a member of the usual university and graduate college committees as well as being an elected member of Faculty Council.





HENRY H. WEBSTER, PH.D.
Head of Department

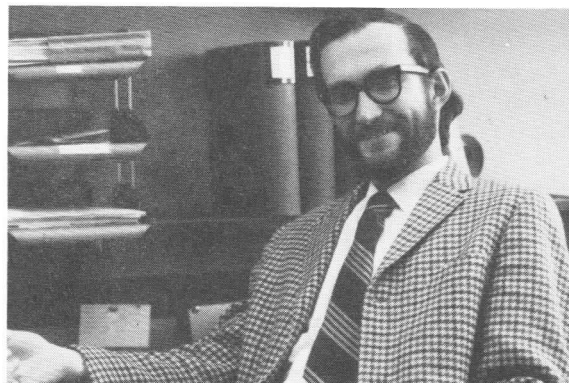
Dr. Webster was appointed Head of the Forestry Department on June 1, 1967. He received his B.S. degree from the State University of New York, College of Forestry at Syracuse University. In 1956 he was awarded his M.F. degree and in 1960 his Ph.D. degree, both from the University of Michigan. From 1953 to 1963, Dr. Webster was employed as a Forest Economist with the Northeastern Forest Experimental Station, U.S. Forest Service. During 1962 he served as visiting lecturer at the University of Minnesota. He adjoined the faculty of the University of Wisconsin in 1963 and was appointed chairman of the Department of Forestry there in 1964. Dr. Webster is currently a member of the national Committee on Accreditation of the Society of American Foresters, and a Cooperative State Research Service Committee concerned with administrative guidelines for research in forestry schools. He is also a member of a national committee that is directing preparation and publication of a new book in Integrated Resource Management. He is also the author of more than 30 technical publications. Dr. Webster's interests include classical music and also public and political affairs related to resource, environmental, and economic issues.

DEAN R. YOESTING, PH.D.

Assistant Professor

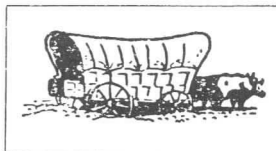
Forest Outdoor Recreation

Dr. Yoesting has been on the I.S.U. staff for 6 years, having originally been appointed in Sociology and Anthropology in 1966. He was jointly appointed in Forestry in 1969. Dr. Yoesting holds his B.S. and M.S. degrees from Ohio State University and his Ph.D. degree from the University of Wisconsin received in 1967. For the last 11 years teaching and research have taken up his working time. Dean's field of specialization is sociology of leisure and recreation. His principal duties in the Department of Forestry include participating in research concerning human-preference- and-use-pattern aspects of outdoor recreation. Dean also participates in teaching natural resource administration.



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SUMMER CAMP



Calumet, Canada
Summer of 1972

Summer Camp

By GARY HUNTER

Examinations for Spring Quarter 1972 ended on May 26, and hasty preparations began for Forestry Summer Camp in Harrington, Quebec at CIP Nature Center. The next five days were spent in our home towns with our girl friends, preparing ourselves for a rigorous six weeks in the bush.

On the night before our departure, we set to the task of cramming six weeks provisions into one suit case.



The Canadian Hilton Restaurant

From June 2 to June 4, forty-six foresters arrived at camp, unknowingly to face mosquitoes, constipation, cold baths and le probleme de feu aux pantalons (hornyness).

On Monday morning, June 5, Dr. Hopkins gave the introductory remarks. We were to spend the next four weeks in cabins at the 4-H center, and the remaining two weeks in tents at the CIP Nature Center. He versed us on the adverse conditions, which we already knew about, rules of the camp, which we were to find out about, and the French women, which we wanted to know about.

The remainder of the day was spent with Manny Wilson, resident manager of the Rouge Division of CIP.

The Wood Utilization course was conducted by Dr. Prestemon for the first three weeks of camp. The course concentrated on timber products, techniques and problems of harvesting and processing wood products.

We visited many mills in the area including Gatineau, Montreal, and Ottawa. This gave us a chance to occasionally escape the routine of camp and view the framework of the better half of the French population. (Dr. Prestemon we advise you not to bring your daughters to camp in a few years.)

On the third week of camp we greeted Mrs. Dickman along with Dr. Dickman. Dr. Dickman taught Forest Ecology. We studied the effects of weather and topography on the species of the region and observed the effects of rain on the human body.

Multiple Use Operations was headed by Dr. Hopkins. The course included trips to La Rose National Forest, and Manawauke, complete with chicken dinner.

At Manawauke we witnessed a water bombing demonstration and participated in a simulated fire fighting operation, and were finally asked to leave when we managed to burn down the eastern half of Ontario's forests.

The course that for six weeks inflicted more mosquito bites, toil and sweat, longer hours, and relief upon completion was Forestry 203, Forest Measurements, taught by Dr. Thomson. This course consisted of field surveying, inventory sampling, data collection, and analysis.

Upon completion we presented our cruisers report summarizing the timber stands in the region. We were now convinced that forestry consisted of more than fishing, hunting, and recreation.

Classes for the week terminated each Saturday at noon. The weekends were not only anticipated by the foresters, but also by the proprietors of the local bars.

The roads evidently took their toll on the vehicles, because every Saturday afternoon they would have to be taken to an expert mechanic in Hawkesbury, full of guys with dirty clothes and dry throats.

Sundays were spent re Cooperating, relaxing, and playing softball at the local ball diamond, fifteen miles away.

Camp was not only forty-six guys tramping through the brush, but a group of foresters learning what forestry was all about.

Thanks to the supervision of Dr. Hopkins and Mrs. Hopkins the camp ran smoothly. We were also fortunate to have a cook like Mrs. Baushamp for efficiently feeding us with our meager provisions.

We would also like to express our appreciation to the local bars for our weekend entertainment, the females of Hawkesbury, for being females, the cus-

toms for allowing us to bring our souvenirs (all 46 bottles) across the border, and finally to the forty-six men who transformed mosquitoes, rain, and hard work into an unforgettable experience.

By DAVE HARKEMA

Summer camp 1972 will be remembered for the good times we all experienced; for the contact with a unique area—the Ecology Center— and the interactions with people. Some may even remember it for the giant mosquitoes, the work, the long drive, the rain, the roads now noted for wrecking motorcycles, the peanut butter or the LABATTS! Summer camp is like your relatives, it's good to see them come, but it's good to see them leave.

Summer camp '72 was the second camp held in a 4-H camp on the grounds of the Canadian International Paper Company's Nature Center, thirty miles north of Hawkesbury, Ontario.

For the first four weeks we were located in the 4-H camp with six cabins, a wash house with cold water, a mess hall which doubled as a classroom and a two-story house occupied by Dr. and Mrs. Hopkins. The Rouge River provided the bathing water. The last two weeks we were housed in tents and an old sawmill at the Nature Center. The nearby pond was shared by trout and smelly foresters alike.

In his introductory remarks, Dr. Hopkins versed us on the adverse conditions, which we already new about; the rules of camp, which we were to find out about; and the French women, which we wanted to know about. The rest of our first day was spent with Manny Wilson, resident manager of the Rouge Division of CIP.

Probably the favorite course of many of the foresters was the forest products course taught by Dr. Prestemon for the first three weeks of camp. The course concentrated on timber products techniques, and problems of harvesting and processing wood products. We were always visting someplace with the necessities—running water, electricity, and the framework of the better half of the French population (Dr. Prestemon will advise you not bring your daughters to camp in a few years.)

On the third week of camp we greeted Mrs. Dickman along with Dr. Dickman, who taught forest ecology. This was a lesson in digging holes in trees as well as soil, and twirling water measuring gadgets . . . and they worked in bringing rain.

Dr. Hopkins, camp director and a little everything, taught multiple-use operations, which included



One of the more luxurious pads.

trips to La Rose National Forest and Manawauke, complete with chicken dinner. At Manawauke we witnessed a water bombing demonstration and participated in a simulated fire fighting operation. We were finally asked to leave when we managed to burn down the eastern half of Ontario's forests.

The course that for six weeks inflicted more toil and sweat, longer hours and relief upon completion, was Forestry 203, forest measurements, taught by Dr. Thomson. The "How to hill-climb course" (otherwise known as mensurations) consisted of field surveying, inventory sampling, data collection, and analysis. We found if we couldn't climb the mountains or wade the swamps, the mosquitoes would see that we were carried across.

Dr. Webster joined us for part of the camp and provided a boost to our spirits. The presence of the wives of the staff kept us from getting too grubby and they helped the camp to seem not so foreign.

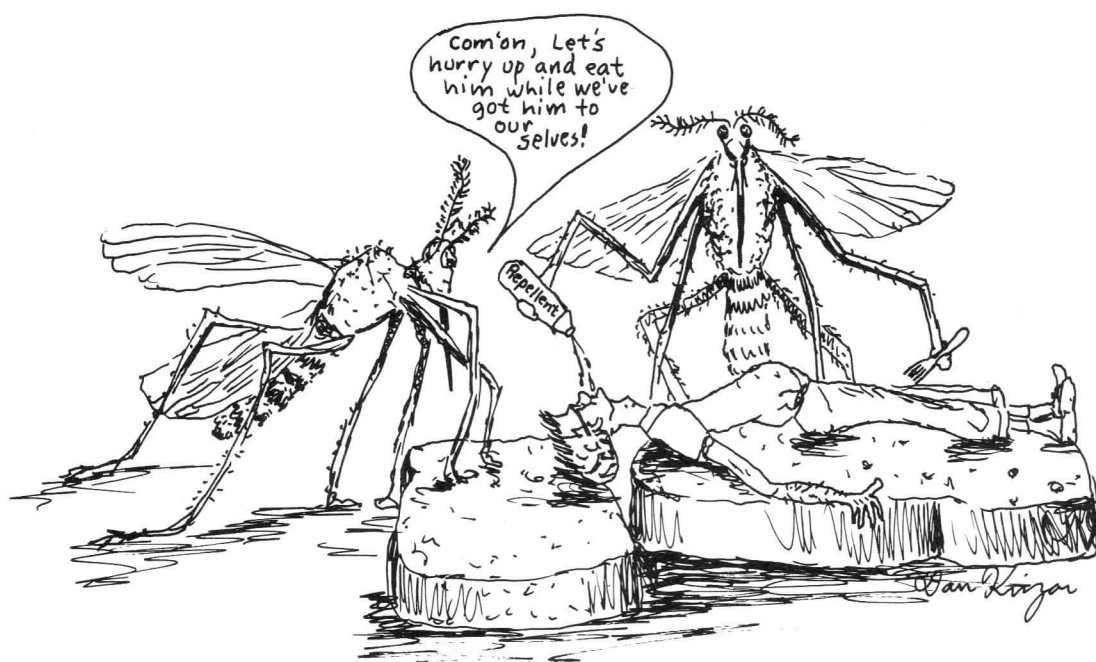
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SUMMER JOBS, 1972

The Adventures of an ISU Forester in Washington State

By JAMES DEAN

The excitement about a summer job began late in March of '72 when I received an offer to work for Simpson Timber Company in Portland, Oregon. I was so enthusiastic about the coming summer that I almost forgot that the quarter wasn't over and that it might be a good idea to continue studying.

Upon finishing my last final, I picked up my passenger and made tracks for Portland, the "Rose Capital." Two and a half days later, we made it.

Oregon, land of the tall timber and majestic Mount Hood, is a fantastic place to gain job experience. Aside from the varied trails, timbered areas, mountain climbing, wine, women, and merry-making, there wasn't much in the area of extracurricular activities.

At the Chemical Division of Simpson Timber Company paper is treated with phenolic and polyester resins. Every two to four hours, 10,000 feet of paper was impregnated with resin, cut into the proper length, put on pallets, and prepared for shipping. Quality control is a very important part of making this operation a success. Identifying problems, solving problems, and being alert to possible malfunctions before they arise are also important in quality control. Manual inspection for defects is a tedious, monotonous and tiring job but must be done until some young and aspiring man, like yourself, develops a better method. The above description was a summary of my first two weeks with Simpson.

From this point on, my job was a unique experience. I was given two assignments: conducting a time and motion study and compiling a parts list for their maintenance people. I had no direct supervision. This was my opportunity to use my own ingenuity and personal ideas and attempt to achieve noteworthy results. This was not only challenging, but at times frustrating, although a worthwhile experience. Also, during my time and motion studies, I made a few critical personnel reports. If there was ever a time to support statements with fact and evidence, this was it!

My final project was one that kept me busy for about twenty-one working days. Have you ever been told to itemize the parts of a machine or drive assembly or trace down and identify a jungle of breaker boxes and 440 electrical outlets? In addition, I was to devise a coding system and tag the machines. That was my task and I had two weeks to do it in. It didn't take long to realize that the magnitude of the job was larger than the time I was allotted. It was time to do some quick thinking and find the answer. My solution was to ask permission to work seven days a week for the first three weeks in August, thus cramming fifteen working days into a two week period. This way I could complete or nearly finish my assignment and be able to quit a week early and still draw a months wages. In the end my list was eighty pages (although not quite complete), my month's wages was earned, and I got my week vacation to see the West.

above a crevasse of unknown depth! I'm just glad I had practiced self-arrest, a method for stopping a fall on the slopes. Mountain climbing is an intriguing and challenging sport. I look forward to my next climb.

Oregon has a great variety of people. I met two of the extremes ranging from a man who told this farm boy I would not get back to Iowa in one piece to the complete strangers who gave me free room and board and the use of their household for two months. I am greatly indebted to this generous family. It would be nice if the world had more people like these. Needless to say, I have made a lasting friendship.

My homeward trip took me through San Francisco, Los Angeles, across the Southwest on route 66, north to Kansas City, and ISU-bound on I-35.



Two Hood Mountain Maids and Me.

My leisure time was spent at home and climbing Mount Hood. Although my first attempt was a failure (we were called off by the ski patrol), the second assault with an experienced mountaineer proved to be a success, even though we battled freezing rain, cloud cover, blowing snow and 50 mph winds. Returning from the summit, I slipped only twice on the 30 degree icy slope that lay just

Washington Monsoon

By ROGER JOHNSON

I spent my summer working for Kern's Furniture in Hoquiam, Washington. Hoquiam is about 40 miles west of Olympia and lies on the shore of Gray's Harbor, about 15 miles inland from the Pacific Coast. I spent most of my time putting wood putty in knot holes, and as a whole the job was about as exciting as a Botany 310 lab, but the entire area surrounding the harbor was dependent upon the forest for its economic livelihood and was an excellent place for an Iowa forester to become acquainted with Northwest forestry. Hoquiam lies in the rain shadow of the Olympic Mountains and gets about 80-90 inches of rain per year, mostly in the winter. I arrived in Hoquiam June 1, and didn't even see the sun for about a month, everyday looked just like the one before it—overcast and rainy—really was hard to get used to.

Weekends provided quite a change from the weekday boredom, as the area was just packed with places to go and do. I spent weekends in Olympic National Park, Mt. Rainier National Park, the beach, Vancouver Island, Seattle, and Portland. Jim Dean was working for Simpson Timber Company in Portland, and we made an attempt to get to the top of Mt. Hood, but the snow became too soft so we turned back about 200 vertical feet from the top, and slid down the mountain on our rear ends with plastic bags.

Bruce Fischer was also working in Hoquiam, and we found a way to get a tour of Weaverhaeuser's new office in Tacoma. This had to be one of the summer's highlights, as we got a tour of the whole place, plus a free lunch. The office sort of spans a ravine, and looks like a dam from the freeway. The bottom level is a dam and is used to impound a small lake immediately to the north of the building. The building extends for nearly a quarter mile between two hills, roof overhangs on all floors are planted in natural vegetation, making it possible to walk from one hill to the other without ever leaving the grass. All in all, it is the most impressive piece of architecture I've ever seen, was really a pad.

Although my job was nothing fancy, I had the chance to visit six National Parks, and went through Nebraska, Wyoming, Montana, Idaho, Washington, Oregon, Nevada, Utah, and Colorado. If anybody has any wood puttying problems, please contact Bruce Fischer or myself, make no doubt about it—we *know* about wood putty.

Forester Without Trees

By BRUCE WIGHT

Last summer I worked for the Soil Conservation Service in the rugged country of Southern Iowa. It wasn't really the type of job I had in mind when I first began looking for a summer job in January and February. Like most foresters, I had visions of working in the tall timber country of the Rocky Mountains or the Northwest. But with the scarcity of jobs, I followed every lead that came along. I kept my eyes peeled on the bulletin board at the Ag. Placement Office for any companies interviewing that might be interested in foresters.

I found out that foresters were qualified for positions as Soil Conservationists with the Soil Conservation Service. Having nothing to lose, I interviewed them in February and sent my application in for a student trainee position. I felt I really botched the interview so I continued looking for jobs. But in the latter part of March, I received a telephone call from SCS wanting to know if I was still interested. I was quite surprised and didn't know quite what to tell them, so I made an appointment to talk with them the next day.

Since there was a chance I could get a perman-

ent job by being on their training program, and I would be working under a forester who graduated from Iowa State, I decided to give it a try. I was kind of apprehensive about the job because I didn't know just what I would be expected to know and do. I hoped Dr. Scholtes' soils course would be enough.

I started the day after Memorial Day at the Osceola Work Unit of the Clarke County Soil and Water Conservation District. I spent the entire first day reading a whole stack of pamphlets and booklets for new SCS employees and learning their filing and record keeping systems. I was somewhat bored by the time 5:00 rolled around, but I realized you have to learn something about the rules and regulations of an organization before you can get down to business.

The succeeding days found me doing a wide variety of duties. My supervisor had a training outline two pages long. He hoped to at least introduce me to all the phases of the Soil Conservation Service. I spent the majority of my time assisting the technicians in laying out conservation practices like ponds, terraces, diversions, etc. I also spent quite a lot of time working on preliminary planning for a watershed project in the district. Using aerial photos, soil maps, and land use history, I estimated the amount of soil loss above each proposed structure. Since it was a pretty good size watershed, with approximately twenty structures, I didn't quite get it all done.

Besides working with the technicians in the field and the watershed project, I also spent time with various specialists like a soil scientist, biologist, agronomist, and engineer, learning about some of their duties and how they assist the District Conservationists on special problems. I also learned about the cooperation between other government agencies like ASCS, the Extension Service, and the Iowa Conservation Commission with SCS. I was involved in some public relations work, too. I was called upon to write a couple of feature articles for the local newspaper plus taking pictures to be used in future newspaper releases. Although I wasn't working in a forest, I did have some work with trees. I helped certify windbreaks to make sure they were spaced correctly and the correct species in each row. Whenever one of the local people found out I was a forester, they always had some problem with one of their trees and wanted to know what was wrong with it. I didn't always know what the cause of the problem was, but I did know who they could ask that would know.

Although my job was not a forestry job in the strictest terms, it was a resource management position. In fact, I was involved in the management of our two largest natural resources: water and soil. The job was very interesting and challenging, and I have decided to continue with the Soil Conservation Service when I graduate.

The Adventures of an ISU Forester in Washington State

By STEVE LENIUS

September 1, 1972 marked the end of my second summer with the Forest Service on the Snoqualmie National Forest. I worked on the White River Ranger District which bordered Mount Rainier Nat'l Park on the north side and was stationed at the Silver Creek Guard Station, a relic from the 1950's where a crew of fifty or so men were used to be based. Now the population was a whopping two; my supervisor and I. It was a great place to save your government earnings, the nearest town was thirty miles away and the neighborhood bar a mere thirteen.

I was one of the lucky ones to break in to the Forest Service on a student requisition and was hired as a Forestry Aid in fire control. I worked in the capacity as the assistant district fireman and my major responsibility was to be on alert with the district's 300 gallon firetruck throughout the summer. The other duties I performed were weather data collection, road patrol, supply delivery for the lookouts, fire fighting, and public relations.



Under it all is Lonesome Lake!

The first summer I was there it rained for a month and stopped on July 6. That rain storm marked the first western Washington monsoon I

had experienced and I realized how appropriate the label of the "Asbestos District" was. The summer really began to shape up with excitement in all forms: a summer home fire, a burning auto, a bear ripping off all of my pancake flour, and three weeks of "Cat Pile Sitting 101 (MTWTF 4:00-7:00 PM)". The summer passed by fast and the time came to leave the mountainous stands of douglas fir and return to the bumps of Iowa.

Last summer was more rewarding because I knew more about the district, personnel, and another Iowa State Forester was working in the immediate area. Warren Filbert decided to drop out of the Foreign Legion in Idaho and go to work for the Park Service at Mount Rainier. Now I had an opportunity to get away from Silver Creek when my few days off came around. I reported for work on the morning of June 26 and that afternoon was a horseman on a fire line. Two days and three pair of gloves later, the prescribed cat pile burning was totally out. This summer had started out on the right foot, over the course of eight weeks I spotted three fires on my own and played the role of a sector boss on the last. Cat pile sitting was dropped from my duties which allowed me to get out on the more and concentrate on public relations. Looking back, working fire control does have its merits in paying for the education but does lack somewhat in learning forest management skills but I feel it was a worthwhile experience.

"Yes, I am really the Park Ranger"

By APRIL McDONALD

As part of an experiment by the Story County Conservation Board, I became the first woman park officer in the area. Many visitors (especially men) at Hickory Grove Park east of Ames had some trouble accepting the fact that women are now actively working in the natural resources field.

Although Park Rangerette was my official title, I served as everything from acting park officer to latrine cleaner. My major duties were creel census, camper registration, and public relations; but having a very indiscriminating (and understaffed) employer, I also performed all the duties of my seven male co-workers. A few of these included litter pick-up, gardening, tree planting, maintenance, clean-up, picnic table painting, park and lake patrol, and care and feeding of 3600 baby catfish.

The creel census was my most interesting job. Eleven days a month were devoted to counting and interviewing fishermen and identification and sizing of their fish. Each creel day was divided into either a 6 a.m. to 2 p.m. shift or 2 p.m. to 10 p.m. shift with counts made every two hours.

Identification and number of fish were the creel objectives, but people and public relations were my objectives. I interviewed anglers from age five to 85 and from as far away as Romania, Hong Kong, and Scotland. I weighed a two ounce blue gill, a nine pound catfish and almost everything inbetween. I also took the blame for bad fishing, our bumper crop of algae, and the weather.

Although the majority of park visitors were friendly and considerate Hickory Grove had its share of litter, over-crowding, and complaints. Each weekend I explained to visitors why trailers weren't allowed on the baseball field, why cars must remain in the parking lot, and why trees could not be cut down in order to make room for more tents. But my job had more good moments than bad ones. Quiet Iowa sunrises with only meadowlarks for company, fields of bright wildflowers, and watching a little boy catch his first fish made the problems seem more tolerable.

Hickory Grove is a small park, but it has its problems just as all other parks and recreation areas are facing. My first job experience in outdoor recreation taught me that although a knowledge of biological facts and concepts is necessary, an understanding of people is essential; for without people the field of Outdoor Recreation wouldn't exist.

City Slicker

By WALT KALEN

The past summer for me involved gaining invaluable urban forestry experience. I want to say "unvaluable," but that wouldn't be the whole truth. Even I couldn't work a whole summer and not come up with something tangible.

I think we are all aware of the fact that our chosen profession yields little in the way of monetary rewards, unless we teach it. My job was your standard \$2.50 per hour experience-getter.

When Mike Weger and I were hired we were told it would be in the supervisory capacity. In charge of the high school summer help, we were. They didn't show up the first week so I learned their duties first hand. I spent my 8 hours on the business end of a broom, heavy duty, and a rake. So as soon as the street crew would drop a tree, I would start raking the twigs and sweeping up the sawdust. Stimulating to say the least.

Before I forget I must give credit to my employer, the Des Moines Forestry Department. They didn't pay me however, so I can't blame them for that. The federally funded Urban Corps was actually my benefactor.

The second week my stalwart crew showed up, all two of them, for a hard summer of being supervised. Actually, I was lucky in that mine wanted to work so they didn't need much supervision—this left me free to apply my education to the other jobs in the crew.

I learned how to operate the Hi-Ranger and do the pruning and tree-top work. The Hi-Ranger is similar to the boom truck you see the power company changing street lights with. It was easy to run because there was only one lever and it worked just like the stick in an airplane. You wanted to move slow up there however or the truck would tip over or you would get thrown out of the bucket.

The most gratifying experience was learning to run the Clam Loader. This was a hydraulically operated brush and log loader. It had five different levers that were used to perform the various tricks required to pick up and load a log. I dug up more sod and scraped concrete down to the steel rods before my manual dexterity improved to the point where I was a proficient Clam operator.

I put in many hours on the chain saw. Whenever we had to drop a tree that was covered in poison ivy, I got the honor. Through great care and a shower every night, I didn't get so much as one blister, poison ivy that is. I had more than my share of blisters.

The most enjoyable part of the day was our lunch hour. Five or six of us would indulge in a little game of chance. Many days this was more profitable than working, others it didn't pay to show up.

The crew was an alright gang, for city employees. They had esprit de corps which is rare in government work. Sure, some had their petty dislikes. Long hair, beards, foremen, and college students were the ones I recall off-hand. They were a great bunch of guys and knew their jobs, another rarity. They worked harder than any other crew I observed last summer. To be honest, this still wasn't a back breaking pace!

In parting, I would add that the job was interesting, but I wouldn't recommend it to anyone unless they are either interested in urban forestry or hard up for a job, as was my case.

TRNMP

By LINDA WRAGE

Located in the Badlands region of North Dakota is Theodore Roosevelt National Memorial Park. When Brig. Gen. Alfred Sully (opposed the Sioux Indians) first viewed the area in 1864, he described the Badlands as "hell with the fires out", and when I too saw the area for the first time this past summer I could very easily see what he meant. He also attributed the adjectives "great and majestic" to the North Dakota Badlands and it didn't take me long to feel that those words were just a beginning in describing the landscape.

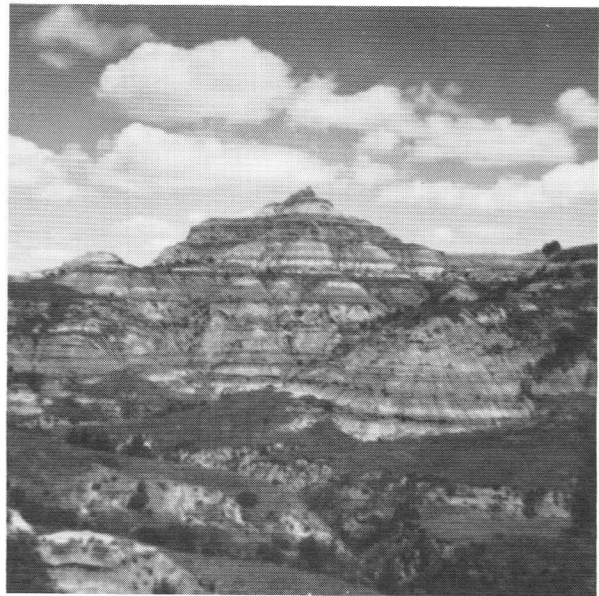
Theodore Roosevelt National Memorial Park is located in the far western portion of North Dakota and is a relatively small park, 110 sq. miles divided into 2 sections about 70 miles apart. It was here that I spent my summer working as a seasonal rangerette with 5 other women and 10 seasonal rangers. The primary duties of the guys were road patrol, nature walks, campfire programs, campground attendant, and horse patrol at one of the scenic overlooks. The duties of the rangerettes were centered around the Visitor Center and Entrance Station (locally known as the "entrancing" station!).

Our days usually consisted of spending about 4 hours in the entrance station and 4 hours in the visitor center. I don't think I can really say which place I liked working better because I enjoyed both places so much and each had so many different things to offer that you could never really get tired of either place. The biggest thing to keep in mind while you were in the entrance station was that you were the first person the public came into contact with and it was up to you to give them a good impression of the Park Service.

About half of the time in the visitor center is spent giving tours of a small log cabin that Theodore Roosevelt first lived in when, in 1883, he came out to that area to hunt buffalo and later invest in the ranching business. There was usually one other girl at the information desk with you. Cabin tours were 15 minutes long, which meant that you would take a tour out for 15 min. while she stayed at the desk, then she would take the next tour out while you were at the desk. Therefore, if it happened to be one of those days in which you were at the desk all day and it was a really busy day, it

would be possible for you to give 16 cabin tours a day. That was probably the most challenging part of the whole summer—trying to keep your talk from sounding like it is the umpteenth one you've given that day! Other duties while at the information desk were to announce and start the introductory slide show, handle the sales counter, get the next tour group ready, answer questions, and answer the radio and telephone in the back office. One of the things that amazed me the most was the calm, assured exterior that we always presented to the public, while "behind the scenes" there was always something happening out in the park that the public never knew about!

Probably the most frightening thing of all the new things I learned and did was that first cabin tour. The very first thing I had to do on my first day of work was take a group on a tour. I was so nervous that I know I forgot at least half of the stuff I wanted to remember to say! Fortunately my



Sample of local surroundings

first group consisted of 4 elderly ladies who were very understanding. The first tour was the worst, almost immediately after that you felt like you'd been doing it for months.

The great variety of people that make up the great American public never ceased to amaze me. The experience I gained in working with and handl-

ing people in those 3 short months was probably greater than all the experience I had had prior to this past summer. I am planning on returning to T.R.N.M.P. next summer and I am sure that it will be just as exciting and rewarding as last summer was.

Yellow River State Forest

By BRAD UPFIELD

Spending a summer at Yellow State Forest in Northeast Iowa is many things to many people. For me it was a summer job for the summer of 1970. Yellow River State Forest is located in the midst of spectacular bluffs along the Mississippi River. It is one of the most beautiful places in Iowa.

My living quarters for the summer was a one-room cabin within the Forest itself. This allowed Doug Johnson (ISU student working at Yellow River) and I to keep a close eye on the campers and they in turn keep us busy answering questions.

My job was broken down into 2 areas: Recreation area maintenance which included trail maintenance, and picnic and camping area clean up; my other main responsibility was the maintenance of hardwood and conifer plantations. There has been a number of conifer and black walnut plantations planted in the past 12 years and I pruned black walnuts and mowed around trees most of the summer.

On weekends Doug and I were the only ones working at the Forest so our time was spent keeping the large number of recreationists which used the area on weekends happy. Public relations was of prime importance at all times.

One of the most interesting parts of the job besides working with the people in the recreation areas was working with the 10-12 inmates from the Luster Heights work release camp for inmates from the Men's Reformatory at Anamosa. The inmates would work daily on the Forests providing much of the needed work force.

It was a most interesting summer and I realized you don't have to leave Iowa to work in a forest, at least not one without big trees.

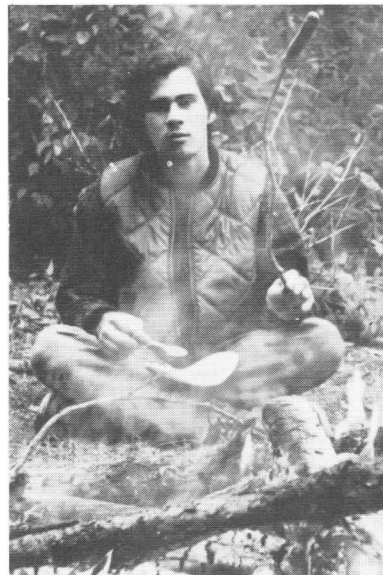
Brad Upfield

Life at Summit Creek Guard Station or Can Chewing Tobacco Replace Wine, Women, and Song?

By GREGG LINN

Summit Creek Guard Station can be found in the Hahn's Peak District of the Routt National Forest located in northwestern Colorado. During the summer of '72, I was lucky enough to be assigned there with the Forest Service.

The Routt National Forest is heavily counted on for the five major land uses. Cattle and sheep grazing is found throughout and the water problem facing Colorado demands intensive watershed management on Forest Service land. The population around the Routt is growing at an incredible rate, thus placing exceptional burdens on the recreational facilities. In 1972, housing developments were started, which when finished will provide homes for up to 40,000 new residents. This increase in population threatens the current balance of multiple use on forest land by creating the problems of pollution, sanitation, water supply, wildlife habitat destruction, and just plain overuse. There is also the old problem of meeting timber demand while keeping the forest in a sustained yield rotation.



I did some of my own cooking!

I was hired as a forestry aid and found myself working with 3 other student foresters. Our primary job consisted of setting up timber sales in lodgepole

pine and spruce-firm stands. Each timber sale was made up of ten to twenty blocks, these ranging in size from 6 to 60 acres. We began each sale by rib-boning the block boundaries with the aid of aerial photographs, and then marking the boundaries with blue paint. The next step was to tranverse all the block boundaries, determine the area and map the sale. Lodgepole pine was always clearcut, but in spruce-firm stands we marked about 33% of the volume for selective group cutting, basing our selection on wind-firmness and vigor. After this was completed, we cruised the area using the variable plot size method. This was done by using a real-scope and a basal area factor of 20 to determine whether or not trees were within the sample plot. For each sample plot we noted height, dbh, reproduction, slope, boggy ground, exposed rock and windfall. Regardless of the area within a sale, we always used from 68-72 sample plots. This was how we kept busy from 8 to 5, Monday through Friday, June through August.

The closest social life was a 35 mile drive through mountains and over dirt roads, so during the week we were stuck at Summit Creek. Nights were spent reading and writing until eye strain and writer's cramp set in. Then we started practicing some conclave events of which tobacco spitting was the most popular. After a hard night of chewing, the front walk was a disaster area. When the nights were rainy, we spread newspaper on the station floor and continued our practice. A Minnesota forester won the prize for the highest spit when he streaked the living room ceiling and a Michigan State forester won the prize for the shortest spit when he lost his dinner the first night he chewed. As the summer progressed, we lived for the weekends which we spent in Steamboat Springs. Steamboat Springs is a winter and summer resort town with plenty of Pure Rocky Mountain Spring Water and Pure Rocky Mountain Girls. To sum up the summer, I would say that I learned more about forestry by being with the Forest Service for three months, as opposed to being in a classroom for nine months and I had a great time doing it.

Rocky Mountain High

By KIRK JOHNSON

In the spring quarter of 1972, I was one of the lucky few who got one of the very thinly spread requisitions for a job that next summer. My requi-

sition led me to Norwood, Colorado and a job with the Forest Service on the Uncompaghre National Forest. More of the area's tourism goes to the better known sister forest, The Grand Mesa National Forest, but Uncompaghre has some magnificent attractions also, some of which I was able to work and live in during part of the summer.

The first 2 weeks were spent thinning timber and getting acquainted with the character of a homelite chainsaw. All the summer employment was on this thinning until about one week before the 4th of July. At that time, the recreation and range people finally were allotted some money so they could work at what they had planned on doing when they first arrived. At this time, the four-man trail crew of which I was a part, began to work trails, which is what the requisition had said we would be doing. After 4 weeks of some fantastic scenery, and hard work on the trails, they ran out of trail money, and we moved on to marking timber.

In seven days, four of us marked over 2 million board feet of ponderosa pine which probably averaged 30 to 33 inches DBH. They had allotted about 2 full weeks for the job, but we were just too efficient, so to our distress we had to trade our spray guns in for the good old homelites and more thinning.

My crew boss and I spent the last 2 weeks thinning by ourselves, and I'll have to admit that at the end of the summer after 6½ weeks of that chainsaw roar in my ears, I was rather happy to head for home.

It was a very rewarding summer, though, and in spite of the flies and the roar of the wilderness rappers (chainsaws), I loved every minute of it and will probably go back again next summer.

Park Intern

By MARK ACKELSON

I was somewhat torn between park administration and park planning. I, therefore, wanted a summer job that would expose me to both.

My wants were satisfied by the Department of Parks and Recreation of Indianapolis, Indiana. I was accepted for the 1972 Summer Intern Program. The brochures on the Intern Program promised education, opportunity and experience. In the three summer months, I was to get a concentrated dosage of all three.

Ten undergraduate and graduate students, majoring in park and recreation administration, forestry and/or conservation, were accepted for the program. Eight Universities from across the U.S. were represented.

The Intern Program consisted of four options of which the intern was to concentrate on one. The options were Park Resources, Administration, Park Maintenance and Operations, and Planning and Engineering.

For seven weeks I worked in Planning and Engineering. I was assigned a seven acre park to design. I took charge of the survey crew for the topo survey and then brought the data into the office and prepared the design. The design and cost estimate were then presented to the Executive Board and they were accepted with construction to begin in September.

I then spent two weeks with a landscape construction crew and was put in charge of several projects.

My remaining two weeks were split between Park Maintenance and Park Resources (Urban Forestry).

In addition to our regular job assignments we participated in all Executive Board meetings, Park Board meetings, Staff meetings, and our own Intern meetings. We were encouraged to participate and many of our ideas were incorporated into the system.

We also took several field trips and tours. We visited Oglebay Regional Park in Wheeling, West Virginia, the Indiana State Fish Hatcher, Indiana State Forest and Nursery, Genesee County Park and Recreation Commission at Flint, Michigan and Spring Mill State Park of Indiana.

In addition to the prescribed work experiences, each intern was required to assemble and present a slide-tape presentation on a subject pertinent to the department. My subject was the need for new types of surfacing in park areas. It seemed to have quite a favorable impact on the department.

The best part of the summer was our living accommodations. We lived in a summer mansion (formerly Eli Lilly's of Lilly Pharmaceuticals) which was in a 3,000 acre CITY park (largest in U.S.) that surrounded a 1,500 acre reservoir. Even though it was within the city limits, we enjoyed a solitude that few there enjoy. We were also allowed the use of all the facilities.

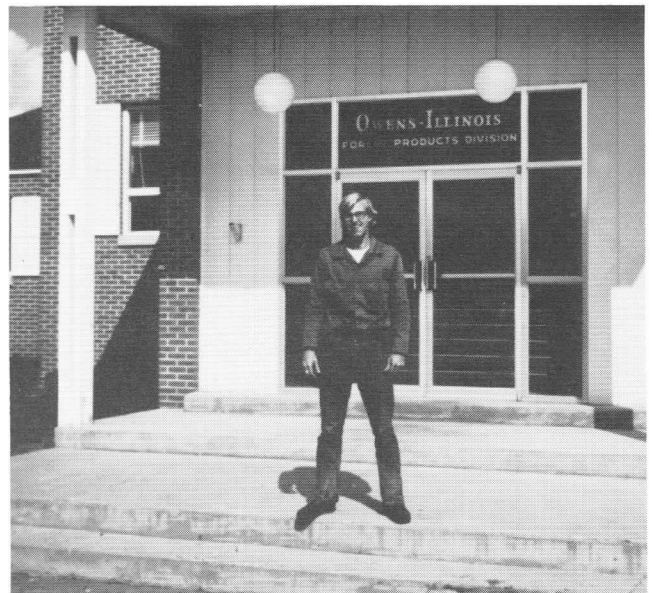
It was a great learning experience and I hope others will take advantage of this and similar intern programs.

Hatchet Creek Explorer

By TOM W. LINDER

Summertime in Northern Wisconsin is something everyone should experience at least once in their life. The extreme variety in both weather and topography add an unforgettable experience to each explorers life.

I use the term explorer because in essence that's what I have been for the past two summers working for Owens-Illinois Forest Products Division at Tomahawk, Wisc. O-I owns about 258 thousand acres in their Northern Woodlands Tract, of which my partner and I cruised approx. 20 thousand over the past two summers. A majority of our stand description covered land recently acquired from Wisconsin Realty in a mass acreage sale. The monotony of cruising was broken up by numerous other projects.



O and I's next president.

In mid-June we constructed an 8 foot high deer fence around one acre to enclose hybrid aspen regeneration (75 postholes by hand!). We also took part in a number of mill studies, CFI plot location, and an APA mechanical harvester study. The preparation of a nature trail improvement report was

another aspect of our experience. The fact that it rained about 60% of the time (or it seemed to) did not stop our work as we simply moved inside to an immense amount of calculating, map preparation, and photo stand delineation.

We were fortunate to have as our supervisor, a fine technical forester in Skip Johnson who did his best to provide us with a work experience that was educational as well as productive. Each two weeks we took part in a training session that varied in its scope from ecological discussions to the operation of a chain saw. Furthermore, each month we were allowed to sit in on the management meetings.

Our living facilities consisted of a small cabin on a typical Wisconsin lakefront. We had our own pick-up for transportation and access to two ATV's if it became necessary, as it often did, to reach an especially remote swamp area.

The variety of jobs undertaken, and the complete change of social atmosphere contributed to making my two summers in Northern Wisconsin educational as well as enjoyable.

My special thanks to Mr. Marlo Burgy and Mr. Skip Johnson for providing me with this opportunity.

Summer Job

By RANDY HOLL

The summer morning stillness is broken by the whine of a small cloud of mosquitoes along the riverbank. Two great blue herons and a couple of common egrets make their daily pass over our maintenance truck as we disturb them from their feeding slough. It's a beautiful morning along the Iowa River.

We climb lazily out of the trusty green pick-up with the words Marshall County Conservation Board artfully pasted on the door. Our mission—Prepare the park for another weekend of use. The morning air is invigorating and soon we're busy mowing, cutting firewood, picking up garbage and swatting mosquitoes. Another day might find us cutting up dead elms, doing trail maintenance, painting, planting wildlife forage, or any number of simple, but necessary chores.

Marshall County is located directly east of Ames and Story County. Divided diagonally by the Iowa River, the county owns and maintains ten areas with a total acreage of about 700. The focus of

these areas is the river, with a wildlife area, a forest preserve, two picnicking and camping areas, and two primarily river access facilities adjacent to the stream.

The Marshall County Conservation Board administers the areas and in my second summer of employment with the County, I was able to get some management input, a lot of practical experience, and an unbelievable proficiency in swatting mosquitoes.

Birds, Bees and the Trees

By MIKE BONDI

I spent my summer working for the Forest Research Institute of Finland, at a Tree Breeding Experiment Station. This happened to be the same station where Dr. Gordon spent a good deal of his time while studying in Finland as a Fulbright Fellow. Besides being a tremendous educational experience, it turned out to be fascinating living in a totally different culture. In addition, I had the opportunity to travel and see, first hand, many things I have only seen in books—never dreaming to be there myself.

Thinking back to last summer almost a year ago, I begin remembering all of the preparation that went into my overseas journey, the anxieties of traveling alone and to a place unknown, as well as just the different feeling of being on the "other side" of the world.

It all began in February when I received a letter from Dr. Veikko Koski, a close friend of Dr. Gordon's, offering me a job with the Research Institute. From that point on, the fun really began, Passport applications, pictures, medical reports, airline reservations (and airplane company strikes!), were just a few of the nerve-racking features of trying to get out of the country for the summer.

But somehow, it all worked out: I took off from my home in Minneapolis on schedule, and I even landed on time! What more than this, not long after I arrived in Helsinki, while waiting for my luggage, I heard my name being called over the loud speaker. So, after a journey of 12,000 miles, there I stood, already with one friend.

My work at the breeding station was involved with nearly all of the aspects of tree breeding. Among my first jobs were isolation of female flowers in Scotch Pine clonal orchards, pollination and pollen collection. Most all of my work was either out-

side or in the nearby greenhouses.

A good deal of our work at the station was involved with "Early Tests". This is a technique used to determine superiority in plants (trees) and very early age. For quite some time, early testing has been eyed as a valuable tool in genetics work, if it could only be perfected. The Finns are still trying. What happens is this: trees are pollinated and the mature seed is germinated. Some of these progeny grow faster than others. Records are kept according to when these plants grow (that is, flushing, shoot elongation, total heights, etc.). What results, someday, is an idea of whether or not we can tell if young trees (first and second year) exhibit any growth characteristics that are important to their development many years later. The main question in doubt is whether trees as young as these actually respond differently or whether these early growth responses are "grown out" of at a later age.



Twelve centimeters over night?

Without a doubt, the greatest moment of my summer came when I had the opportunity to travel to northern Finland—the area of Scandinavia known as Lapland. My immediate boss, Jouni Mikola, was a graduate student in Forest Genetics at the University of Helsinki. He has been traveling to the Lapland since a young boy and now goes there at least twice each summer.

We left in mid-July and spent a total of 10 days traveling through Finland. Jouni provided me with the most complete part of my education in Finland, as we stopped at interesting historical monuments, scenic sites, etc.

Our first stop in Lapland was an overnight camping trip to search for the Golden Eagle. Jouni

is an ornithologist in his spare time, and the eagle in Finland is quite rare, today. We hiked and climbed in the mountains, but our searching was fruitless.

From here we traveled to the Mikola cabin, about 150 miles north of the Arctic Circle. Now the extreme climatic conditions were evident on the local vegetation. Trees 10 feet tall and 30 to 35 years old were the rule. This particular area was the scene of a wild gold rush 40 to 50 years ago. As a result, there is still a lot of history found in the surrounding hillsides. We ran across abandoned cabins, drilling rigs, panning troughs, and some of the purest iron pyrite (Fool's Gold) caves I have ever seen.

The Mikola cabin was terrific. A small log cabin about 5 years old, it is "pegged" together—no mortar was used. The inside was one room for sleeping, eating and relaxing. Besides the fireplace, a Finnish home always has a sauna—even the cabins. And 20 yards in front of the cabin was an ice cold mountain stream, dammed up to provide a small pool to rinse off in after the sauna.

After resting at the cabin, we headed north where we began our main trip. Through this part of the Finnish mountains, we hiked and camped for 4 days—never seeing anything but reindeer. Some of the sights I saw while on this part of the trip were unforgettable: a baby albino reindeer alone on a mountain top, a pair of mountain swans feeding on an alpine lake, and a fantastic collection of reindeer horns.

When we came out of the back country of Lapland, I was exhausted. We covered some 45 miles in 3 days of hiking, with loaded packs, and me, with 8 reindeer horns for souvenirs! Without a doubt, it was a unique and unforgettable adventure, but, I guess, that was true about the entire summer.

Summer Research in Suonenjoki, Finland

By JIM GULLIFORD

Stepping off a plane at an airport, where only the information clerk spoke English, was the first of many interesting and challenging events that were a part of my summer work in Finland. But the help of many friendly people I met while they took me smoothly through my entire stay. From learning to live in their country to functioning successfully in research, I was adjusted to their ways because Suonenjoki is a small agrarian town where few University people lived. It was only at the

pathology research station that English speaking scientists could be found.

Getting into a daily routine was a little tough at first. I found myself tired in the early morning due to time zone changes and wide awake at night. And because Suonenjoki is about 65 degrees North Latitude, the sun was only set for a few hours a night, and it was never dark, not adding any incentive to sleep. Another immediate problem was that of eating. I was forced to prepare my own meals twice a day and I found myself outside the world of canned meals that surround us in local grocery stores. But for one meal each day, I ate with my Finnish friends, and found sour-dough bread, cucumbers, tomatoes, many pickle varieties, lunchmeats, and cheeses to be a part of most meals. Add to that a main dish of fish or many meats, a vegetable, and the daily standby of boiled potatoes, and I never left their tables hungry.



The midnight sun.

I lived with 5 to 8 other guys and girls in a converted country schoolhouse and our daily pattern was pretty regular. Up early, coffee and breakfast, work, coffee break, work, lunch and coffee, work, coffee break, work, dinner and coffee, and coffee before bed. I did learn to put down the coffee at about eight cups a day. And the equal number of trips to the "John" made for a rather short work week. Another daily event was swimming. Because of the warm summer in Finland, water they considered hot to swim in was bearable. But it did feel real fine to step out of the sauna and swim in a cold lake. The use of the sauna in Finland is very popular, and after two months of using it 3 times a week, I found it to be part of my stay I looked forward to consider-

ably. Dry heat up to 100 degrees centigrade, followed by a cold swim, cold beer, and maybe a shared chicken or cooked sausage. It truly is the way to wind down an evening.

But work was as rewarding an experience as living with them. My work was to develop the design for four experiments and at the end of my stay, begin them. As Spring roles around they will begin yielding data that should be helpful to Dr. von Weissenberg as he studies nursery diseases. I worked with sterilizing roots and maintaining seedlings in a sterile nutrient solution to be inoculated with conidia from a pathogen, *Fomes annosus*. Other work required wounding seedlings and applying different treatments of fungus mycelium to the wound. But all the work taught me precise research techniques, and a better understanding of the metric system. I can only hope that the work I did proves to be as valuable for Dr. von Weissenberg as it has been for me.

Although the pay was low, the fringe benefits were fantastic. I was able to get out on my own and make new friends, travel throughout Finland between Helsinki and the Arctic Circle, and spent a weekend touring Leningrad, USSR.

Summer Job

By FRAN ECH

"Wanna drive today?" I would ask, grabbing the keys for 1908 off the board at the work center. "Nope, think I'll look at the map and see where we're going this morning," replied my yawning partner.

And so it was—the start of another day of timber inventory work on the Spearfish District of the Black Hills National Forest. While I guided the Power Wagon up Spearfish Canyon, my partner would study the cruise map to determine where our daily plots were located. The early-morning reports crackled the radio, "... Cement Ridge, 10-8 ... Boxelder Job Corps Center from Deadwood ...," as we were busy filling each other in on the events of the night before.

At the end of our ninety-minute ride, we would point our Red Wings in the direction of the first plot of the day. While I was busy grazing through my relascope and taking measurements on the trees that were in the plot, my partner would be recording codes describing the ground vegetation, forest type, stand condition, operability, habitat type, and cultural needs of the site.

After completing our daily quota of plots and seemingly climbing every uphill grade imaginable, we would crawl into the truck for the ride home. It was a real struggle to keep from dozing off while driving down the Canyon, especially when the monotonous drone of the tires was interrupted by an occasional snore from my dormant partner. Once back in Spearfish, I would stretch out on the sofa with a can of Oly and imagine doing it all again tomorrow.

—Fran Eck

In the Land of Sky Blue Waters

By MARK PROESCHALDT

As I sat in the tent listening to the rain patter on the tent roof and watching the lake form in the corner of the tent, I wondered if this was really canoe camping at its finest in the Boundary Waters Canoe Area in northern Minnesota. But I decided putting up with cold and wet conditions and wet sleeping bags were just some of the discomforts that had to be faced.

Then there were other times. Times of beautiful sunrises, warm and sunny days, magnificent scenery, inquisitive wildlife, crazy loons, colorful sunsets, and fascinating campfires. What a great life!

This past summer I was one of the counselors which lead(?) high school kids on 10-day canoe trips over various routes in the Boundary Waters. We drove a bus back and forth from Ames to Ely, Minnesota, for each trip. On the trail we usually traveled a considerable distance each day with many long portages and lots of paddling and would have an occasional lay-over day when we didn't travel. By evening everyone was tired and had developed huge appetites.

We had many good times. People got to know one another better and friendships formed. There were times to fish, swim, talk, and of course to eat. There were many opportunities just to be alone. Taking a canoe out and drifting with the breeze is great therapy for anything.

Of course, we had periods of the summer monsoons, nasty mosquitoes, discovering neat swamps, and long rough portages. It was great, though, and I can't wait to get back North for another wonderful summer.

—Mark Proescholdt



I helped dad on the farm last summer!

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National Society of American Foresters Convention Visit

Hot Springs, Arkansas Oct. 2-5, 1972



Left to Right: Van Cline, Mike Bondi, April McDonald, Bob Spetman, Carl Ramm.

In the fall of 1972 the George B. Hartman Travel Award was presented to five Iowa State forestry and outdoor recreation students. These students—April McDonald, Mike Bondi, Carl Ramm, Bob Spetman, and Van Cline—received lodging and transportation from Ames to Hot Springs, Arkansas, to attend the Society of American Foresters National Convention. Dr. Webster and Dr. Thomson accompanied the group. The trip lasted a total of four days, two at the convention and two on the road.

After a long drive through scenic sections of Arkansas, we arrived late Monday evening and rushed off to attend the student rap session which included forestry students from all over the country. Students argued that the SAF should have a job placement referral service, but professionals disagreed. We felt the meeting was unorganized, to say the least, and the long heated discussion accomplished very little.

Tuesday morning we groggily climbed aboard buses for a tour which encompassed forestry practices throughout the Mid-South. At our first stop,



in the Ouachita National Forest, we saw a Busche Combine at work. These machines can move pulpwood from fields into the mills without ever being touched by man. They can fell trees, delimb, buck, and load about 12 cords of pulpwood a day.

Our next stop was the Ouachita seed orchard where we toured an area used for production of superior seed and seedlings. The area, about 700 acres, is the largest shortleaf pine tree improvement project in the world. While touring the area, those of us from the 1971 Summer Camp were happy to see our old friend—the Canadian Water Bomber. The CL-215 again demonstrated its efficiency and accuracy in water bombing fires.

The general census was that this tour was the most interesting and informative part of the trip. Carl Ramm summed it up by stating, "The Forest Resources Study Tour of the Mid-South provided our group with a diversified look at forestry practices in this part of the country!"



award winning films concerning forestry and the natural environment. Some of these were particularly timely and controversial.

One of the major benefits of the trip was the opportunity to meet so many of the professionals in the natural resources field. Several of our old friends also attending the convention included "Big" Ed Grafton (former Club Adviser and now head of the Forest Technology Dept. at Glenville State College, West Virginia), DeWitt Nelson, and a number of recent ISU grads.

Hot Springs also provided the opportunity for interesting side trips. Downtown was lined with mineral water bath houses and antique stores, and we found that Molly's had the best Kosher food found in Arkansas. For all of us, our experience in Hot Springs was well worth the time away from classes. We are indebted to the George B. Hartman Travel Fund and all of the alumni who made the trip possible.



After returning from the field we had dinner at the catfish fry and were entertained by the biggest honkeytonk band this side of Bluegrass.

Wednesday we were recognized at the ISU Alumni Breakfast, attended by about 40 alumni and organized by Harold McAlpine, '70. Steve Hopkins spoke on his summer experience as an SAF intern in Washington, D.C. The remainder of the day we attended various general sessions including "Silviculture and Management in the Mid-South," and "Managing For a Quility Environment." Dr. Carl Stoltenberg, former head of the ISU Forestry Dept., was the ISU Forestry Dept., was the moderator for the "Forum on Clearcutting." That evening we viewed



CLUB ACTIVITIES



Forestry and Outdoor Recreation Club Executive Council. Back Row L. to R.: Dr. Dickman, Club advisor; Jon Gehring, Soph. rep.; Al Mallette, Ag Council Sr. rep.; Mark Aackelson, Vice Pres.; Randy Holl, Historian; Mark Varhus, Fresh. rep.; Front Row L. to R.: April McDonald, Treas.; Mike Bondi, Pres.; Linda Wrage, For. Rec. Club rep. to Ag Council.

Club Exec. Council

Forestry Outdoor Recreation Club

The 1972-73 school year marked the official origin of the new Forestry and Outdoor Recreation Club. After a year of joined operations, we elected officers last spring. The results, a year of success, seem to indicate the value of such a move. Through cooperation, hard work and loyal support, I feel the Club has prospered to a point probably unmatched in recent years. The very scope of the Forestry and Outdoor Club is one thing that really impresses me. I am sure there is no departmental club at Iowa State that is more active, diversified in its interests, or accomplishes more than our Club. It has been a great experience and a pleasure to serve as President.

Following is a brief sketch of some of the major Club activities in the past year.

T Shirt Sales

Another new addition to the Club has been our T-shirts. This idea was presented last winter as a possibility and just after Christmas Art Wirtz organized the project. Art did a great job: he collected the orders, sizes, colors and presented the idea to the Collegiate Manufacturing Company of Ames. The T-shirts, provided Foresters and Outdoor Recs with something in addition to our arm patches.

The Ames Forester

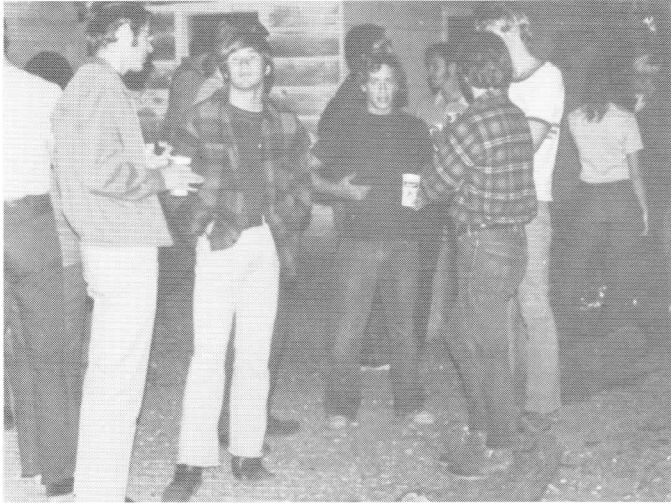
Little needs to be said about last year's *Ames Forester*. We are proud to report our renewed association with the ISU Press. This magazine, going to the Press soon, has been much more organized and, without a doubt, will outclass our disaster from last year. A special thanks to all of our loyal supporters.

Game Banquet 1972

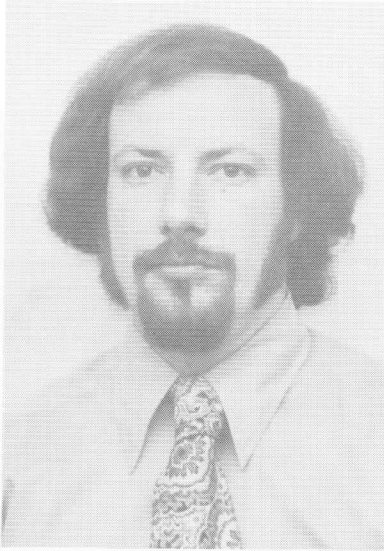
This year's Game Banquet paralleled those of the recent past: no game. Instead, the gathering, attended by some 80 people, featured the standard "wild boar." Our speaker, Roger Contour, from the National Park Service, followed the dinner and presentation of awards.

Ornamental Trees

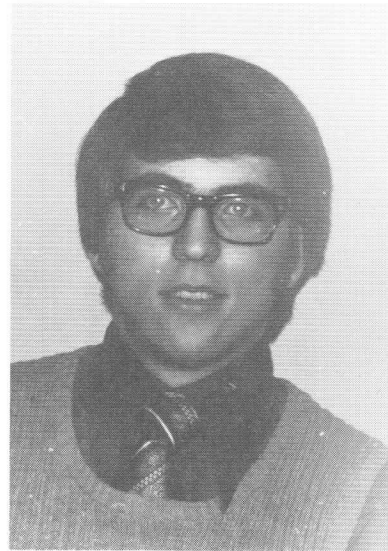
To improve the financial status of the Club, we proposed a new Club project. Through the aid of Rich Faltonson, Greenhouse Technician and Kurt Gottshalk, Forestry III, we will undertake an Ornamental Seedling fund raising project in the spring. In early March, materials were gathered for the sowing and potting of four species: Red Bud, Green Ash, Sycamore and Alder. Hopefully by early May these fully leafed out potted plants will attract a strong market in the Ames community. Our return from this project will not only help the Club earn more money, but will provide a new experience for our members.



— Xi Sigma Pi —
Forestry Honorary Executive Council



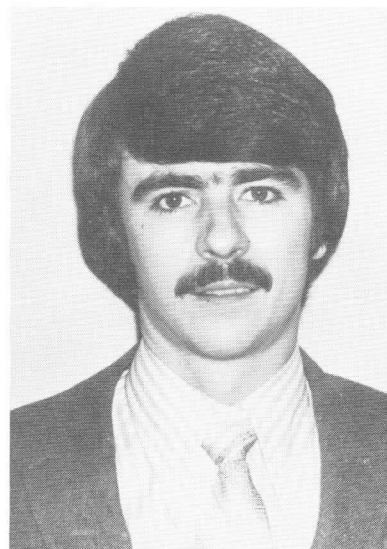
Mark Ackelson
Forester



Fran Eck
Ranger



Brad Vogt
Fiscal Agent



Jim Gulliford
Asst. Forester

Veishea 1972

For the first time in several years, the ISU Forestry-Outdoor Recreation Club's Veishea display took top honors in the agriculture College competition and third place in all University judging.

The purpose of the 1972 display was to illustrate to the public that Forestry is more than log chopping and tobacco spitting and that Outdoor Recreation consists of more than tennis.

The display was divided into four sections. The Forest Management division exhibited the skills and technological knowledge used by modern Foresters in managing forest land for sustained multiple use. On display were various pieces of equipment including an increment borer, aerial photographs, a modle computer, and even the traditional two-bit ax. Also, color slides of forestry practices in Finland were explained by two ISU Forestry students who visited the country in 1971.

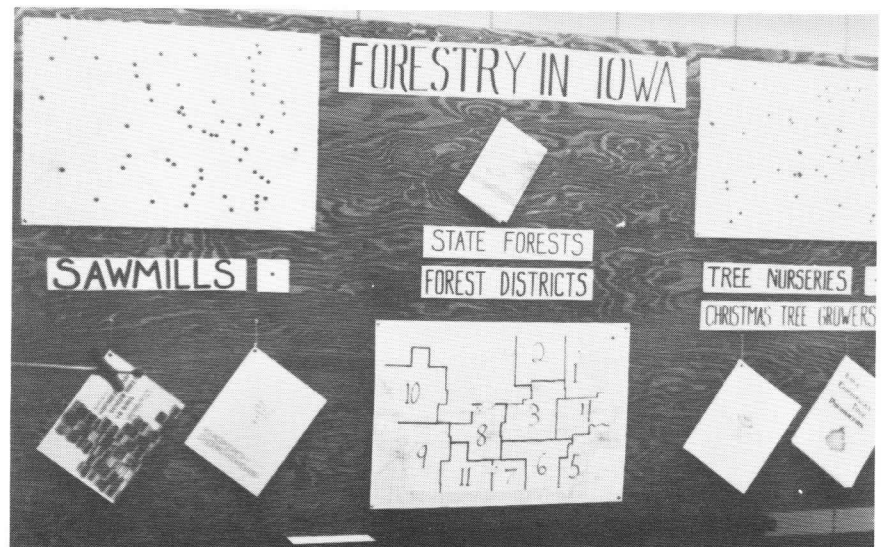
Visitors next moved to the Wood Products section. Here they were exposed to samples of common

problems concerning wood products which often occur around the home, such as termite damage or warping. Wood products majors were on hand to explain and answer questions.

New to the display this year was the Outdoor Recreation division. "People Are Our Business" was the theme of this section which informed the visitors through photographs what Outdoor Recreation Resources is about. Pamphlets and information about recreation in Iowa were available.

The last division was devoted to Forestry-O Rec Club. Pictures of our many activities were on display and red pine seedlings were sold for 10¢ each. This has always been a popular item in our display, especially with the younger children. It is often challenging to make them understand that this funny-looking three inch "twig" will someday grow into a towering pine tree, but we are happy to see their enthusiasm and interest in elecentary silviculture.





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Spring Foresters Day 1972

On a cold and rainy day at Hickory Grove County Park . . .



Will they ever make it?



Listen, this isn't show time! We're supposed to be working on lake front improvement!



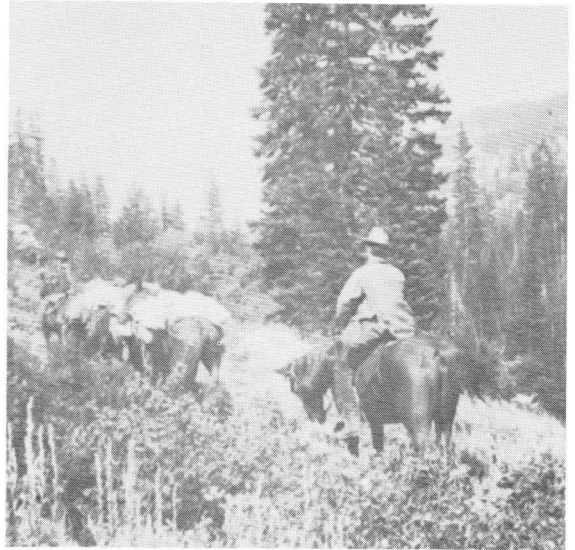
Now I'll show you guys how we do it in the hills.



I think I feel a bug crawling in my chew.



Your supposed to use your feet, not your rear!



The starting line of the traverse.



Heck, I've picked flies out of the air at forty paces before!



Just breathe on it! I'll really boil, Stoney.



Witt gets his stick off.



This is harder than . . .



Don't laugh Dean, you ever try whistling at a chick with a mouth full of chew?!



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And now my greatest illusion, a log suspended in air!

That's not the way they do it
in Finland, guys!

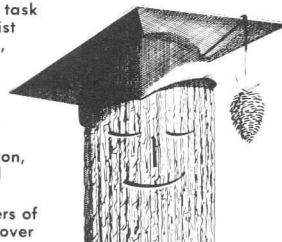


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Fall Foresters Day 1972

A beautiful, crisp fall day at Hickory Grove County Park, thanks to Jim Dean, Greg Linn and Stanley Kramer. We had the traditional pig roast the night before.

Placings

Traverse Event

1. Mike Bondi
2. Gehring

Tobacco Spit Accuracy

1. Tim Krizan
2. Greg Linn

Chain Throw

1. Dave Harkema
2. Rich Gettle

Log Throw

1. Darb Martons
2. Greg Linn

Nail Pound

1. April McDonald
2. Peggy Kalen

Log Roll

- 1st team Ron Witt
Pat Pisarik
- 2nd team Brad Upfield
Bob Revell

Dendrology

1. Maynard
2. Mike Bondi

All Around

1. Tim Krizan
2. Kurt Johnson

Wood Technology

1. Ron Witt
2. Jim Dean

Log Chopping

1. Tim Krizan
2. Goettle

Tree Felling for Accuracy

1. Steve Meyer
2. Dennis

Chain Sawing

1. Mei Like
2. Stoney Kramer

Two-man Bucking

1. Kurt Johnson
Tim Krizan
2. Brad Upfield
Bob Revell

One-man Bucking

1. Brad Upfield
2. Darv Martens

Match Splitting

1. Greg Linn
2. Ron Henry

Egg Toss

1. Mr. & Mrs. Hubbard

Rope Climb

1. Kurk Johnson
2. Jim Dean

Tobacco Spit Distance

1. Tim Krizan
2. Darv Martens

Water Boil

1. Mr. & Mrs. Kramer
2. Mr. & Mrs. Pisarik

Bull of Woods

1. Walt Kalen
2. Steve Meyer

Canoeing

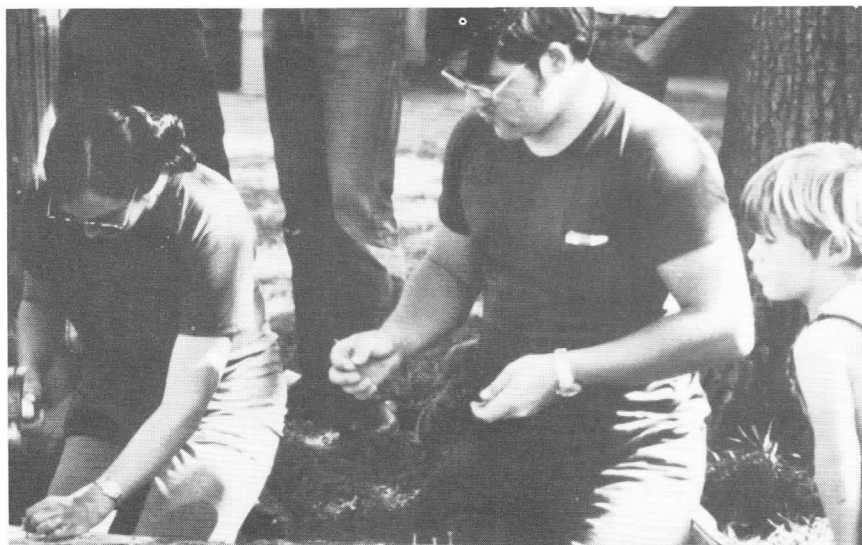
1. Dave Harkema
2. Kurt Johnson

Birling

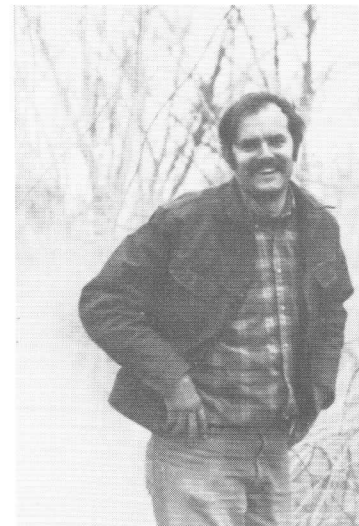
1. Brad Upfield
2. Kurt Johnson

Dizzy-Izzy

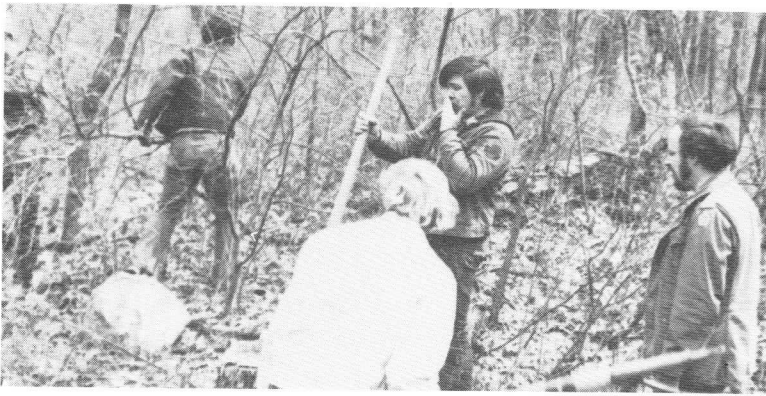
- Tim Krizan



Dad, can I do it for awhile?



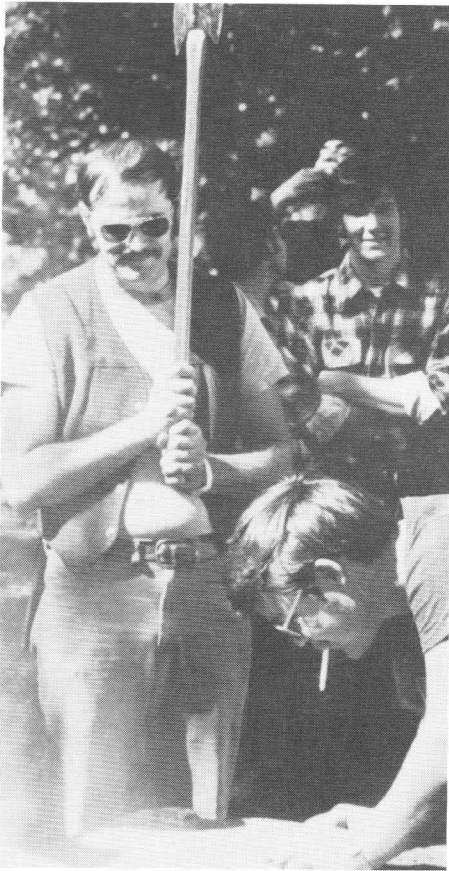
Am I handsome?
Or am I handsome?



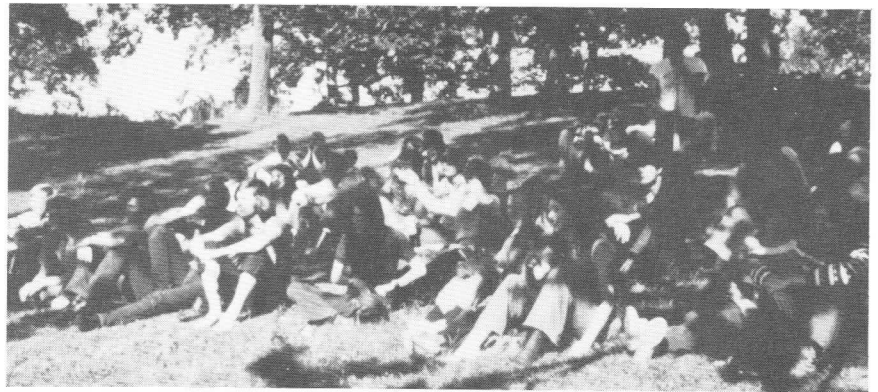
Let's think about this.



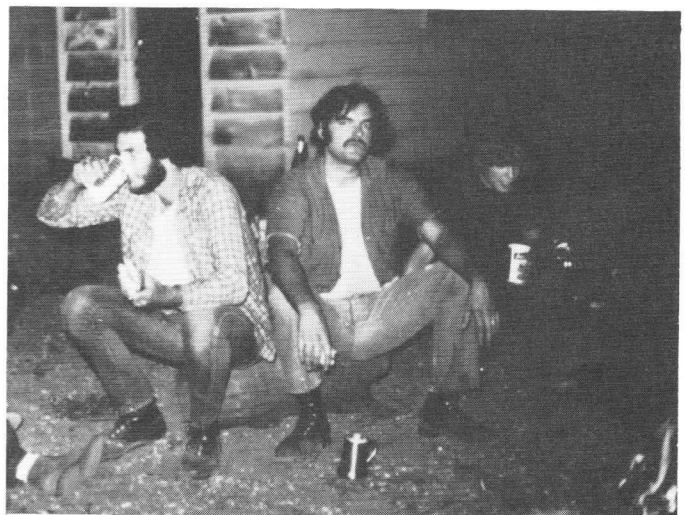
When's the beer get here?



Ten, nine, eight seven . . .



When's the beer get here?



Beer's here - - -



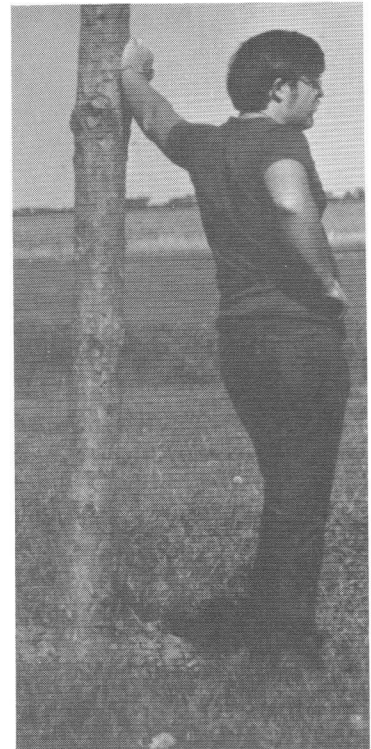
It's takes a PhD to do this?



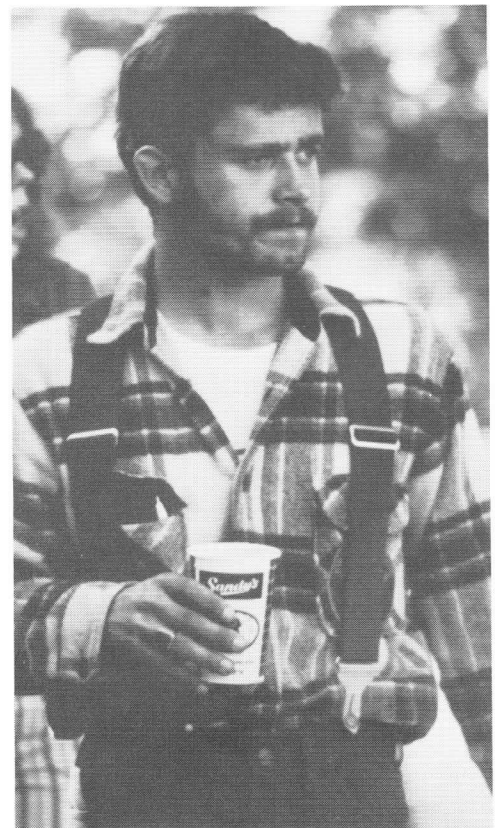
They were so big they didn't fit in both my hands.



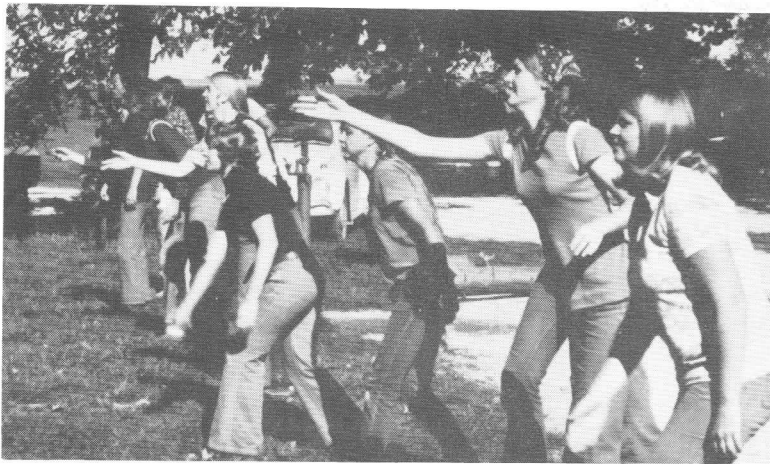
A real walking propane bottle!



I wish someone would come and relieve me—holding up this pole is a real drag.



Someone put sand in my beer.



The better end of the egg throw firing line.



All the nail heads, are on backwards, that's why they won't go in.



I knew I should have taken that wind into consideration!

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AND CHAPS**
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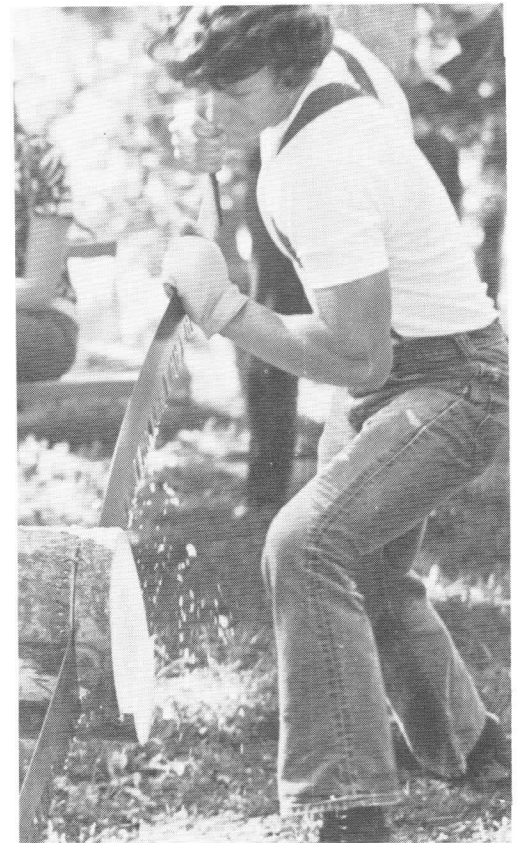
The object of the Dizzy-Izzy is to run down the hill, chug a beer . . .



Spin 10 times around a pale . . .



and then run back!!



It's in the glove, guys!



Ah,'er, this way, Dr. Gordon.



A hard core college grad.



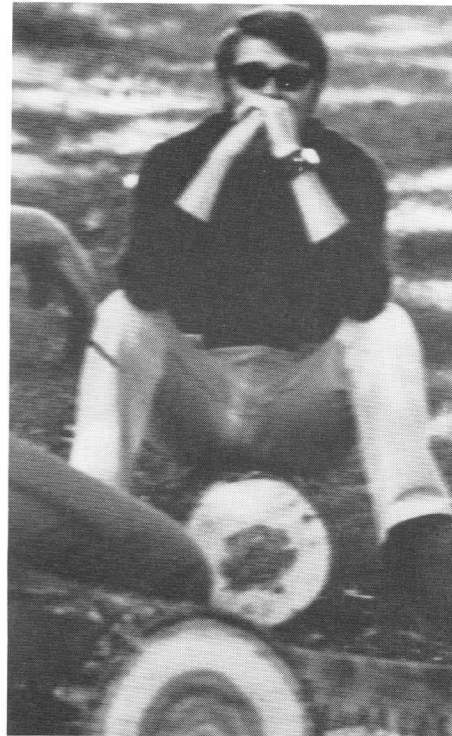
Uh!!!



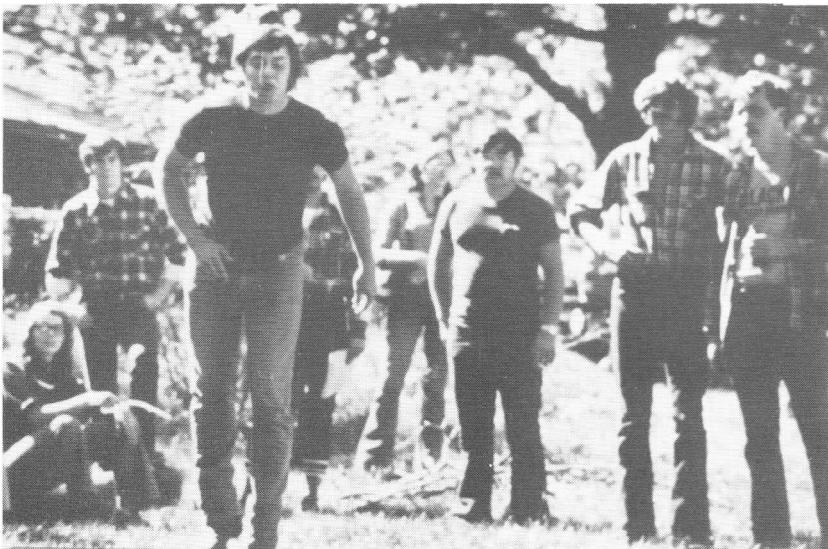
(Stoney) Hut two, three, four . . .



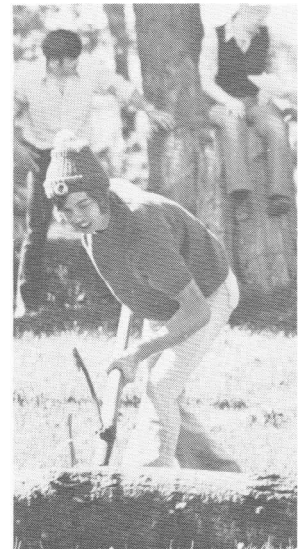
A beaver couldn't do any better.



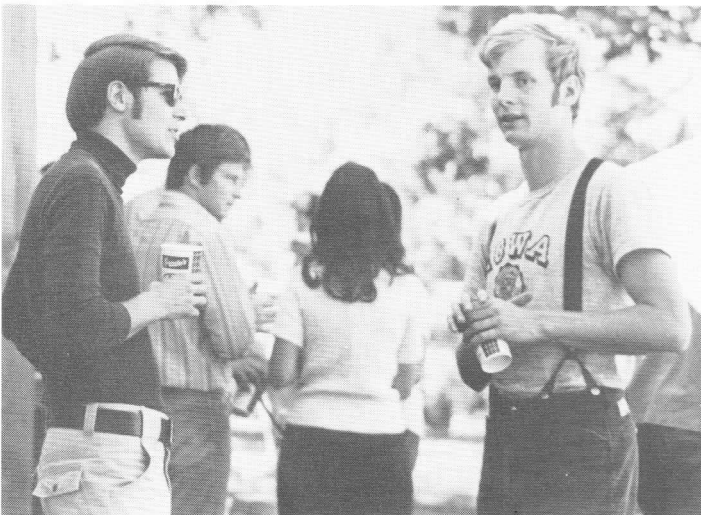
From our secret file of known agitators.



I'll give him a B for style, but no better.



I must be the strongest man in the world.



Bob, I know you'll really enjoy scope.



Don't move.

Listen, I started across this bridge first, so let me by!



Midwest Conclave 1972

*Iowa State returning after a year of absence to "big time" competition
and some good times at Snowy Lake Itaska*

This year after Fall Forester Days were over we got pledges from about ten people to go to the conclave this year. As time approached the number fell lower and lower to the point where we had to recruit personnel from food tech.

The five of us left Friday afternoon in Brad's car, full of the best equipment and beer we could muster. We arrived late that night in time for some of the pregames festivities. Breakfast was at 5 AM the next morning with the events starting soon afterwards. The whole day was very well organized and our meager team did our best to top \$300 saws and hours of practice of the other teams. To say the least we were outclassed but really only in our equipment and our year round enthusiasm for these games. Of the eight teams present we were the smallest and comprised only three per cent of the 162 contestants present. To our surprise we did get five points

to tie for 7th and 8th place with Southern Illinois which had a much larger team. Darv Martens took 3rd in the pulp toss and Tim Krizan got 2nd in the tobacco spit. We left before the ice cream social that night.

What the conclave left with us was the knowledge of how ISU stands in respect to these other schools in competition. But if the degradation of finishing last wasn't enough, the articles announcing the results began to appear in the Minnesota student paper and others and we were referred to as the lowly Iowa State.

The lowly showing of ISU has already seemed to have sparked some interest, as evidenced by the changes planned for this spring's Forester Days. With only a little time, conscientiousness, and very little money we could very easily make Minnesota eat its arrogance?



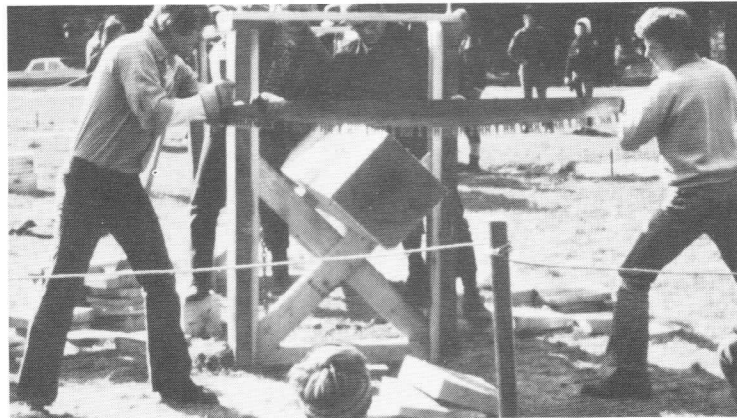
From L. to R.: Tom ?? , Darv Martens, Tim Krizan, Brad Upfield, Kurt Johnson.



How do you like it? I stole it from the U. of M. saw box.



The hair acts as a parachute on the way down.



Power saw!



At least it gets smaller from here down.

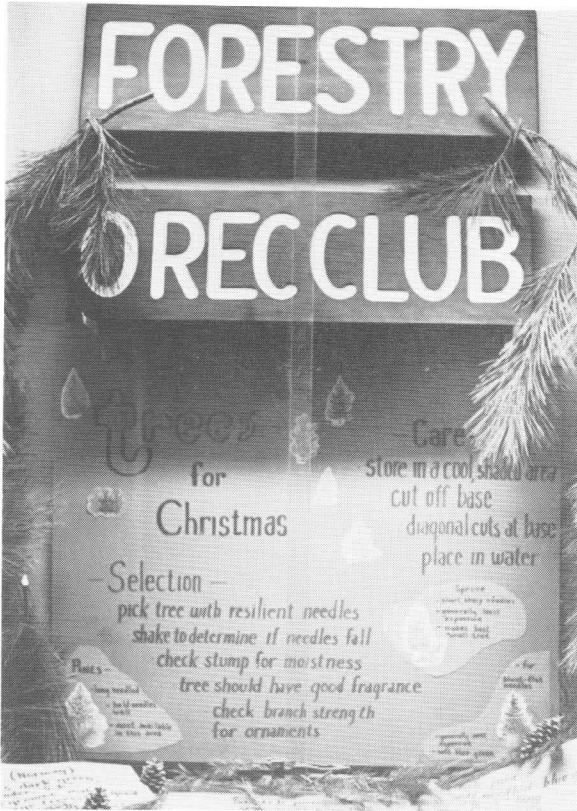


Thanks for the thinnest match.

Christmas Tree Sales 1972

Our final income was short of \$500.00. This was, as in the past, one of the worst weekends of the winter, but sales were very good. Ron Witt and Ron

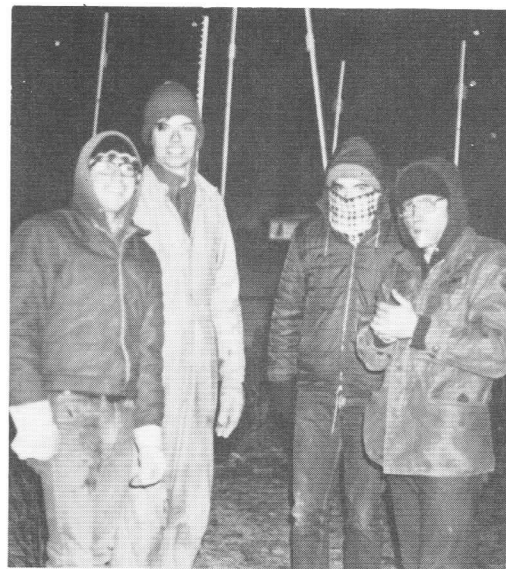
Henry, the Co-Chairmen, ordered the trees from Jack Miller's Tree Farm, Runnels, Iowa. In addition to the sale of boughs, we had our annual trucking service.



Local talent art display. (The help was appreciated.)



But maybe a little people would want it?



Picture of executive meeting in my office.



Your damn right its not worth \$25!

Winter Quarter Ski Party

This year featured our second annual Ski Party, held at Ted's Ski Hill, Grimes, Iowa. Despite setbacks with the unpredictable Iowa weather, the party was another success. About 75 to 80 attended, skied, ate

chilli, skied, drank beer and participated in the raffle. Without a doubt our most popular activity of the winter, the Ski Party will hopefully be a regular feature of the Club.

Some of the more hardy souls skiing in blizzard.
(Someone accidentally opened camera with pics. inside).

Holst Tract and the Students

The Holst Tract is a 330 acre forest owned by the State of Iowa and is located just south of Frazier. The Iowa State University Forestry and Outdoor Recreation Club has been given the authority by the Iowa Conservation Commission to manage the forest.

Little interest has been shown in the forest for the past several years. It has been used and abused by many recreationists with no effort put forth to maintain it. This year, however, the FOREC Club has rekindled the desire to return to the woods. Several projects, individual and group, have been started and more are being planned. The value of this area as an outdoor laboratory is finally being realized and action is being taken to benefit from it educationally and recreationally.

Abuse of the Holst State Forest by the public has caused considerable, but repairable damage. The topography of the area has made it a popular hill climbing spot for local motorcyclists; this not only destroys the vegetation but enhances the chance for erosion of the soil. The delicate nature of the forest's soil is even more of a reason to close the area to motorized vehicles. The FOREC Club has undertaken a project to limit access to the forest by fenc-

ing off the road just inside the parking lot. Our reasoning behind this is that those people wanting to use the area for "non-damaging" types of activities will still be willing to hike into the forest. Limiting use in this way reflects our intention toward a more conservative management policy for the area. Our intentions will be displayed with a large explanatory sign at the entrance.

Other immediate club plans include a general clean-up of the forest—a major problem has been litter. We also plan repair of the cabin (needed because of repeated vandalism) and the development of an impact area around the location of the cabin for recreationists. With a little help from the State, we hope to fly a new set of aerial photographs for the Holst Tract, gathering up-to-date data for resource studies. Looking into the future, we hope to provide assistance in establishing outdoor classrooms for use by the Forestry and Outdoor Recreation courses and local community environmental labs.

Another important use of the Holst Tract is research. Studies taking place this school year include the following:



This has been one of the major improvements.

A Unit-Area Inventory of the Holst Tract: Fran Eck

No recent evaluation of the resources found on the forest is available. Without some knowledge of the type and amount of timber found in the area, it is impossible to prescribe any comprehensive and meaningful forest management practices. My goal in this project is to establish some basis for recommending certain managerial practices for the Holst Tract from information collected in my study. The method I have chosen is called a Unit-Area Inventory. The forest is divided into compartments according to major topographic features and access routes. The compartments, in turn, are broken into stands according to the ages, species, and densities of the trees.

Once the forest is divided into its various sub-units, each stand must be visited and carefully scrutinized to determine the dominant species and to record their average heights, diameters, densities, and ages. The stands are also classified as to their present conditions, and cultural improvements are prescribed to bring them under more favorable management conditions.

Holst Tract Hydrology: Annlee Young

Little is known about any watershed characteristics of the Holst Tract. However, it would appear that at least one of them is very significant—the apparent presence of a clay pan from 6 to 18 inches below the soil surface. This seems to be affecting the subsurface storm flow by channeling it directly to the sideslopes, where it moves out and then down the slope. Erosion appears to be almost equal to that caused by direct surface runoff, an unusual occurrence on a forest watershed. Minor gullying has begun, increasing the efficiency of an already efficient channelization delivery system. The impact of

this on management of the Holst Tract is and will be profound.

Spring Quarter 1973 I will be studying, on aerial photos and in the field, the exact nature and dimensions of the problem. Location of definitive outcrops of the claypan is the first step. From that point, the project will continue with the object of establishing the role the claypan plays in the watershed characteristics of the Tract.

Forest Soil-Site Relationships: Mike Bondi

The purpose of my study is to examine two big-tooth aspen stands and relate their morphological differences to their natural environment. The two stands in question appear to be natural clones. One stand exhibits straight stems growing at a fair growth rate. The other stand consists of trees crooked in form, representing the shape of a corkscrew. My question is, does this obvious difference in form reflect differences in the genetic make-up of the clones or can the gross appearance be explained by edaphic differences?

Besides detailed soil examinations of the two sites, I am propagating the genetic material by sprouting roots cuttings. The growth rates of the two stands will then be compared under identical conditions in growth chambers. If the difference in form is attributed to actual soil conditions, there can be interesting implications with respect to timber management.



This also shows another more leisurely use of the track.

Girls and the Club

In this time when women's rights seem to be a focal point we decided to poll our female members and see how they felt being in a predominantly male field and organization.

What its like to be a woman in a male dominated organization? It's fun!—when the men finally accepted us and realized that ignoring us wouldn't make us go away.

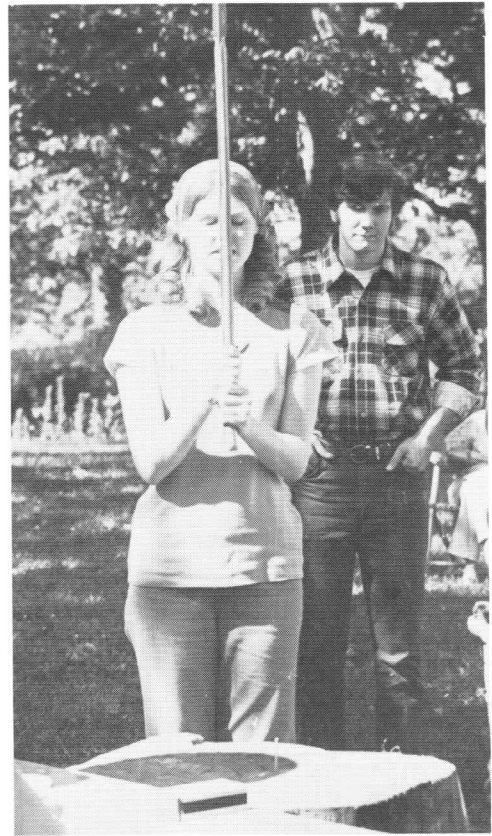
Maybe we should back-up a little and explain what it was like before we broke some of the barriers. The first few meetings we were treated as guests— as someone special who wouldn't take part in activities or really add anything to the club. The guys soon realized that we were sincere in our interest in Outdoor Recreation and Forestry and that we joined the club for the club's sake and not for the purpose of finding a man as many people assume.



Glad we got the smallest one.

When they finally realized that we joined for the same reasons they did, the major barrier was broken. We began to feel like one of the guys. Their behavior in our presence reverted back to typical Forester's behavior and we were included in their typical after-club activities to Shakeys and other local establishments. Although we are generally accepted as equals, we're the first ones they think of (volunteers) when there is cooking or poster making to be done.

The guys give us encouragement and try to involve us in their activities rather than assuming that we are incapable. Now they know that we can carry a 20 ft. white pine over 50 yards, spit tobacco, brave icy water for birling and actually saw through the 12 inch bucking log (even if it did take a little longer.)



Just learning it on my nose.

Forestry Outdoor Recreation Club has done a lot for us. Now entering a room of 50 guys is no longer a traumatic experience, we can chug with the best of them, and make fools of ourselves without feeling so foolish.

Our advice was we'd have to be tough if we wanted to stay. We think we're tough enough.

Thanks guys.

Pat Rutz
Lynn Stevens
Linda Wrage
April McDonald



I've got you now!

We'll let them think they're going to win until just the last second!

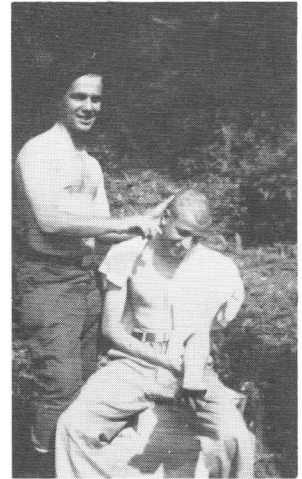


It's not stuck, you just have to pull on it harder.

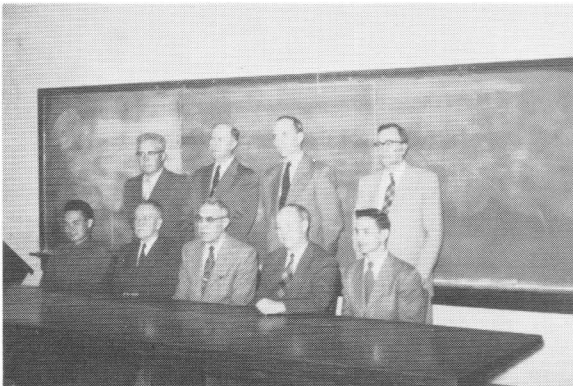
REMEMBER WHEN



You could still see Dr. Thompson's white spot?



This was the hair style at camp?



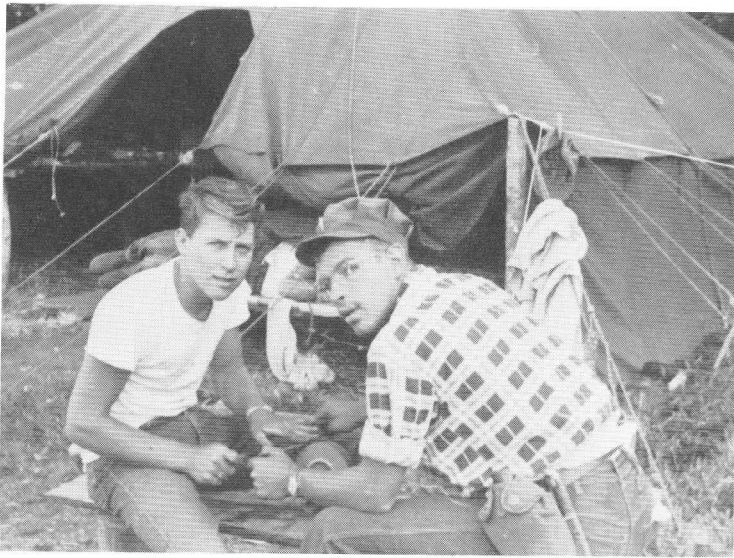
This was the forestry staff.



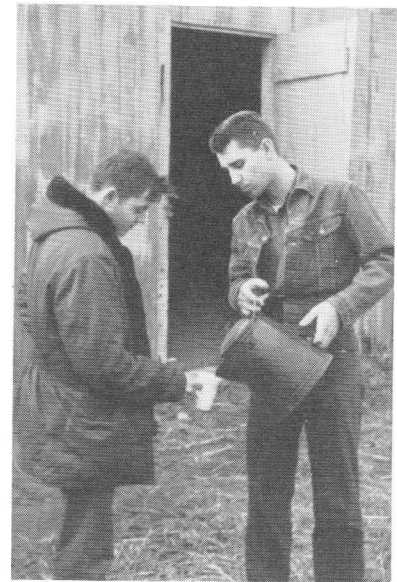
You couldn't see your dates knees?



Bib overalls were in style last time?



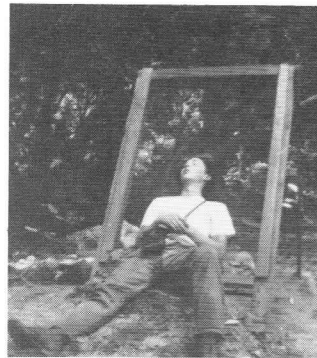
When camp was tent city?



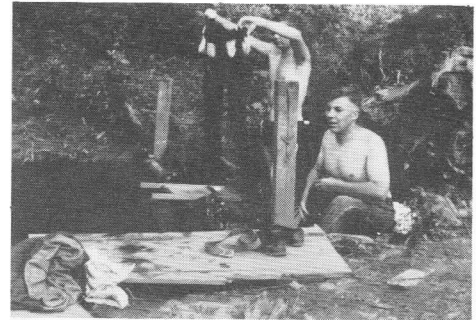
Flat taps were in?



She was cook?



Camp was easy???



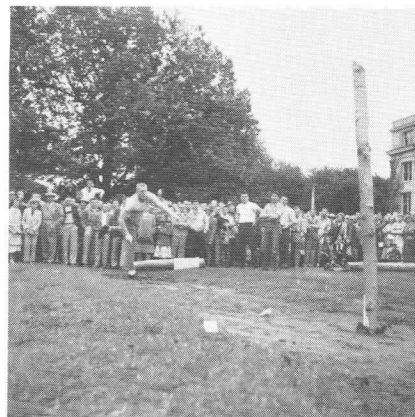
This was the local laundromat?



You had mess duty at camp?



You got caught doing nothing at camp and hard to look busy?

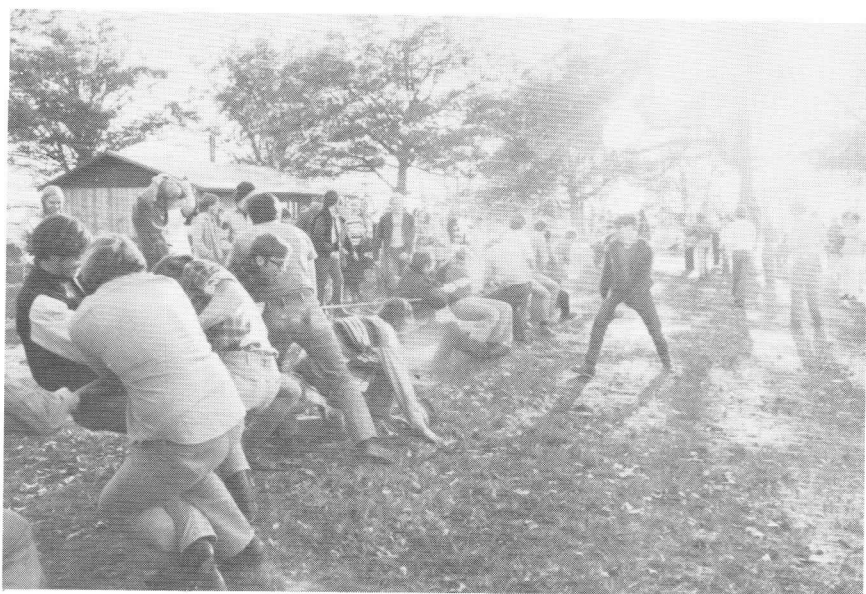


Foresters Day was on central campus?

Do You?

OTHER ACTIVITIES





The upper classmen triumph over the girls of the club for the second straight year.



Don't expect me back for a few days.



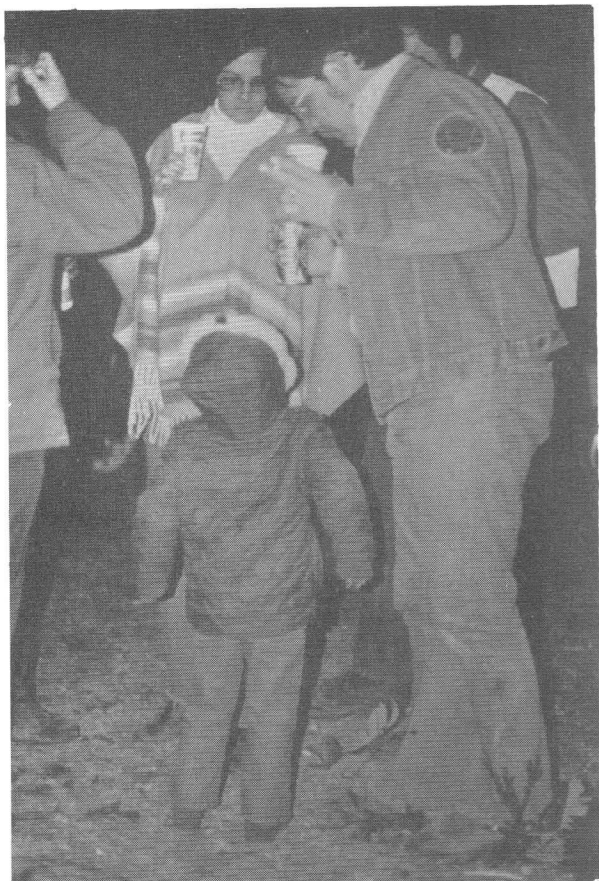
Did he say we have to play the Chicago Blackhawks our first game?



No, I won't tell you what I found back here!



I just came over here so people will think I study.



Can't you go out in the woods and do that by yourself?



I closed them a day ago and I haven't gotten warm enough for them to thaw out yet.



On the count of three I think I'll jump!

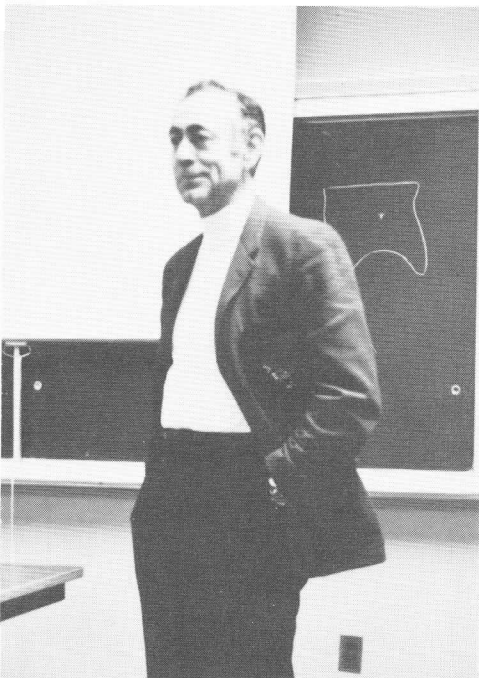


I still think that pig was just a dog they found next to the road. But it was good.

FROSH GET TOGETHER

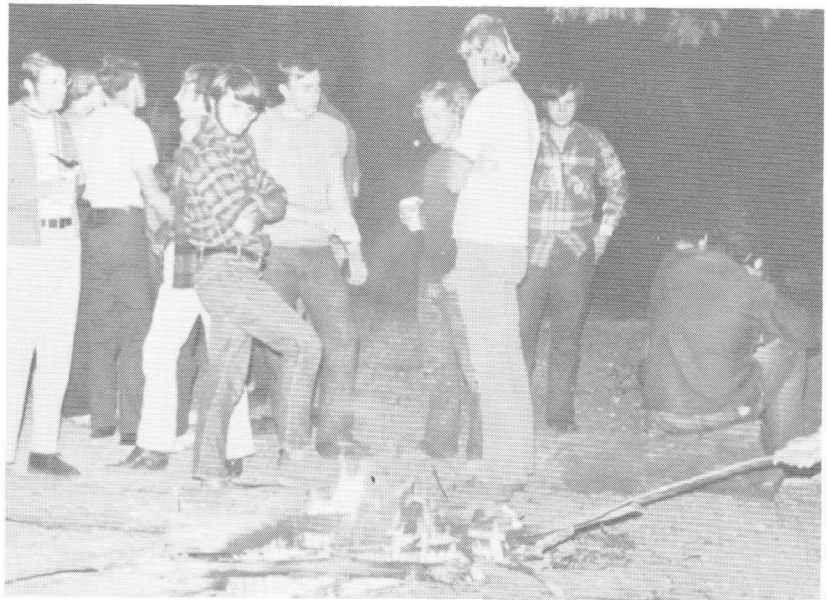


By the time you graduate you'll know how to cook a stick just as well.



All right you knockers. Since Iowa now **HAS** soil conservation districts my predictions are running 100% and my next prediction is that you'll all flunk my course.

AMES FORESTER



Yes, I learned about it in class yesterday it's called **FIRE!**



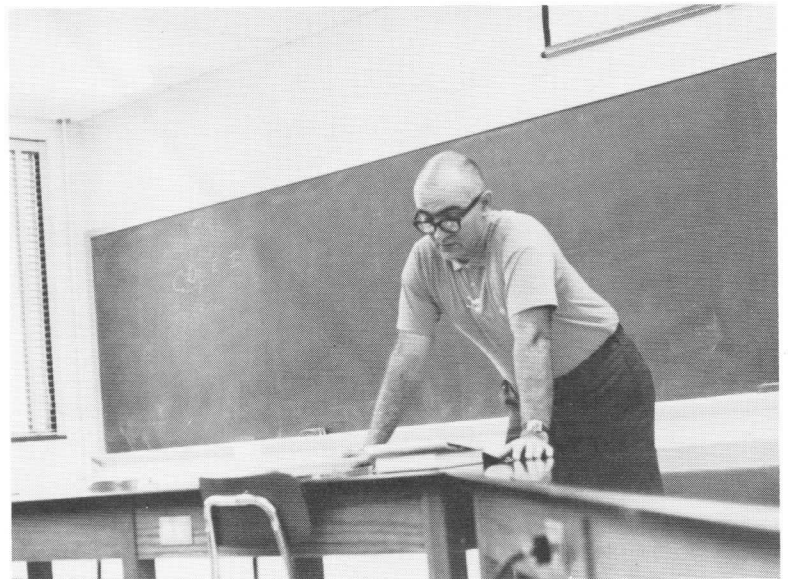
I tell ya Doc, my mind just feels like its been drained of all intelligence.



Listen, I realize I won, but do you have to slobber your tears all over me?



Thank—God we didn't enter anyone in this event!



This will be a rather easy-going course. You'll only have \$100 of books to buy, 60 term papers to write, 100 computer programs due before mid-term. . . .



I suppose you're all wondering why I called you together here . . .



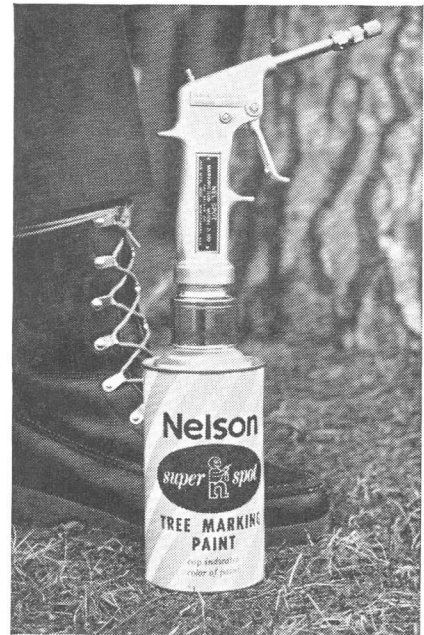
I'm sorry we can't show you what those suspenders are holding up??



Forget the pig—just give me them beans!!!



I was out there on this fire and this dude comes swinging out of the trees and I said, "Don't tell me your Tarzan!"

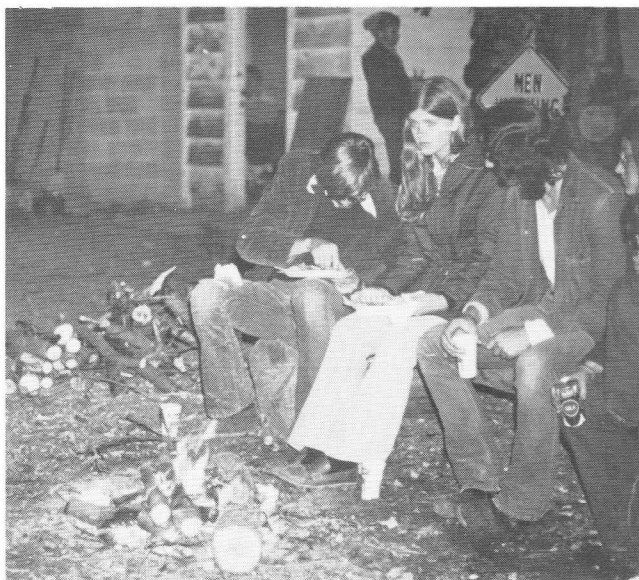


**IN THE LAND
OF THE FORESTER
IT'S NEL-SPOT**

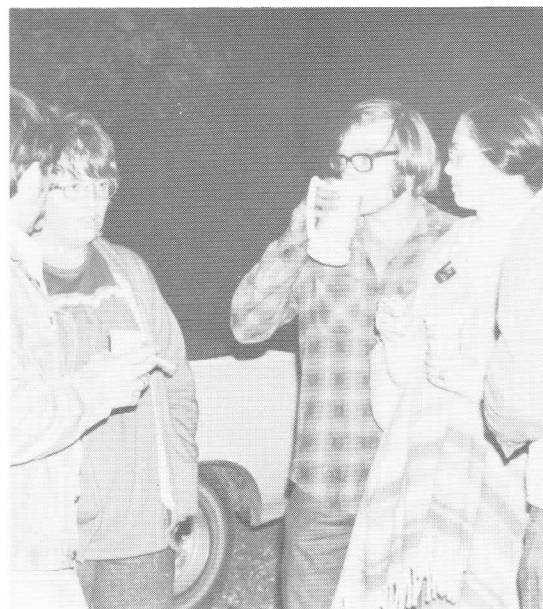
THE NELSON PAINT COMPANY

THREE PLANTS TO SERVE YOU

Box 349, Iron Mountain, Michigan • Box 1892, Montgomery, Alabama • Box 402, McMinnville, Oregon



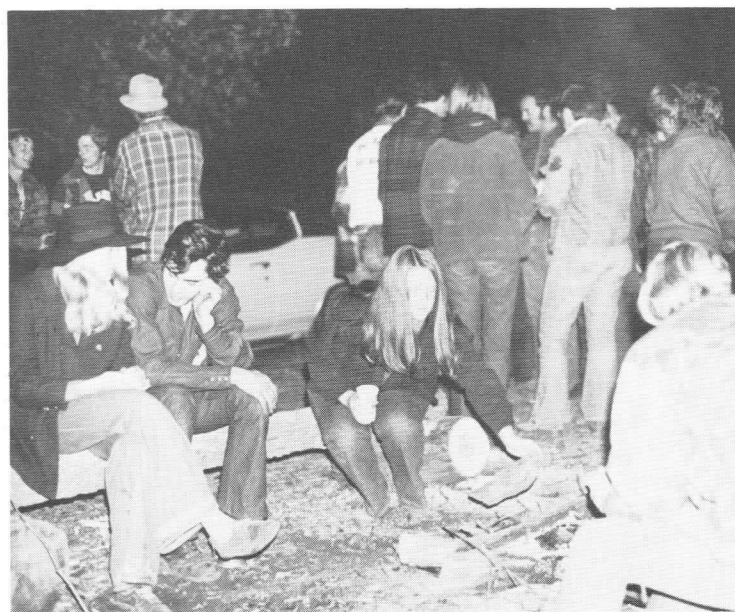
She's right, there's a worm in her pig.



Did you have to wait until now to tell me your dying of gout?



I don't know what's wrong! I've hit it 25 times and the axe keeps bouncing off.



I'll just bet you don't have anything in your hands.



Baby I want to do the bu-ga-loo with you.



This is to show his mother that we gave him a choice but he turned his back on it.



Yes I'm busy right now?



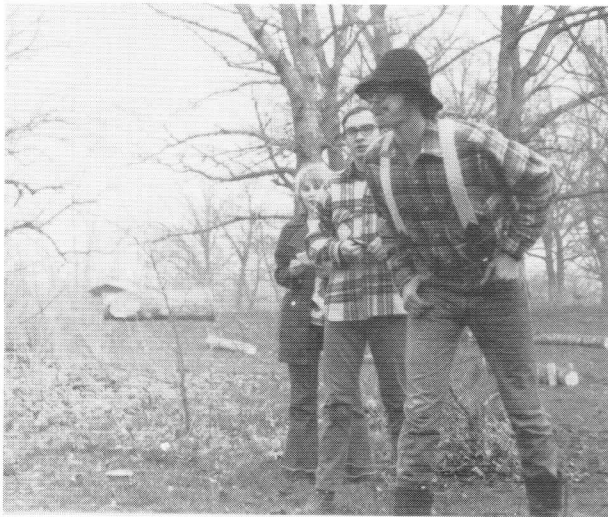
Love them beans! Oh um, mum, gobble snarf . . .



See officer, it's white. I told you it was just milk!



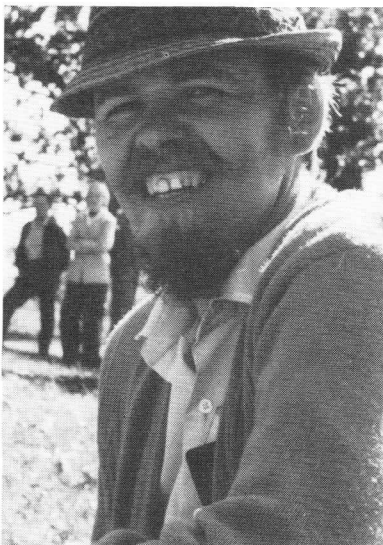
Everything to my right is for me and you guys can split up the rest.



Just hold your britches! It's a comin.



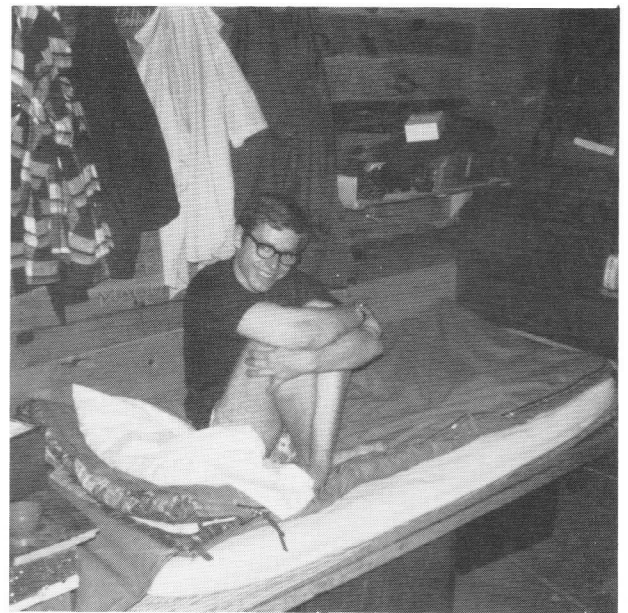
It cost me \$25 in Germany.



I'm catching flies.



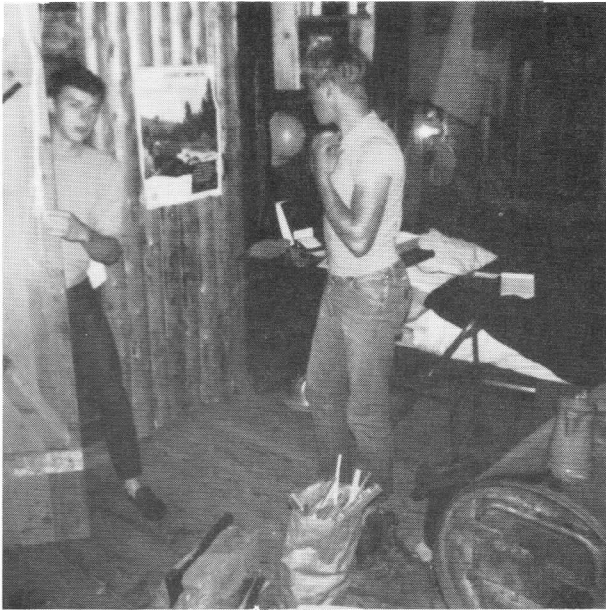
The pause that refreshes.



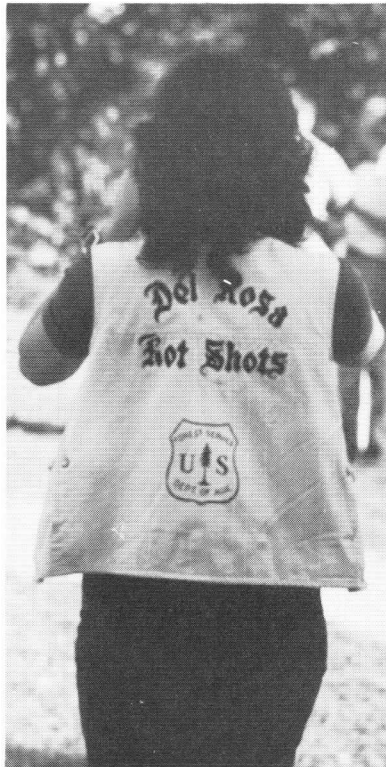
Hello Mudda, hello Fadda, here I am at Camp Granada . . .



I usually keep my mouth shut or it falls out!



Do you mind? I'm not quite ready yet!

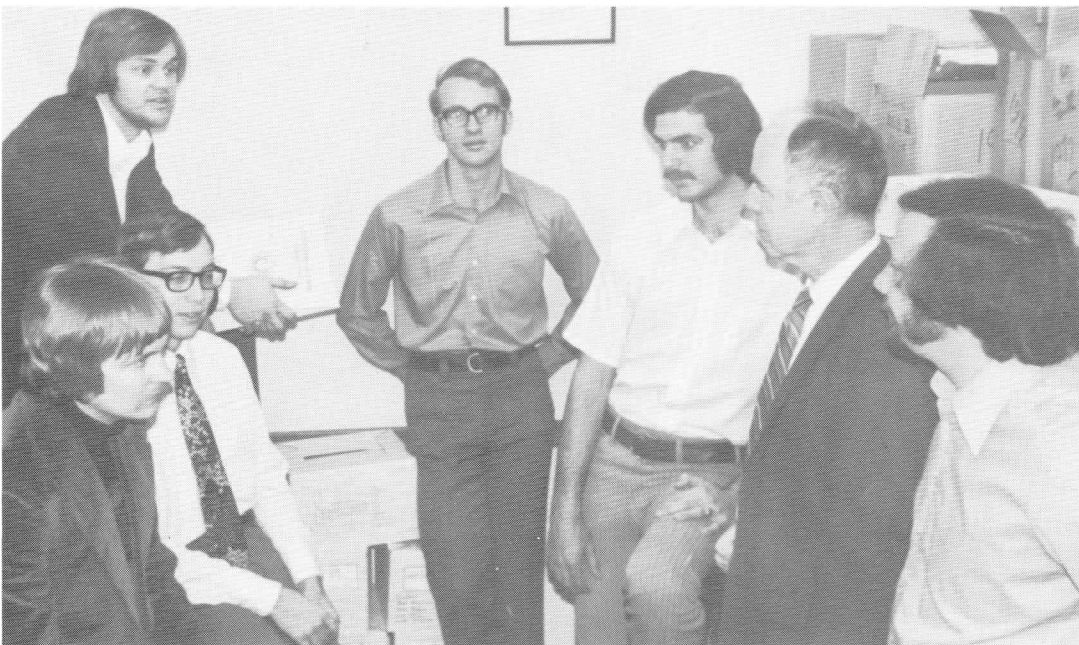
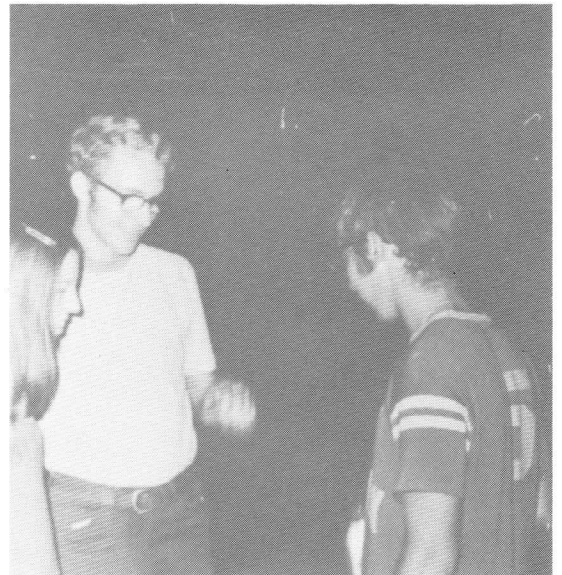


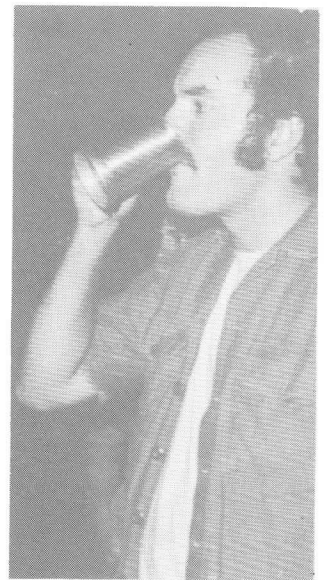
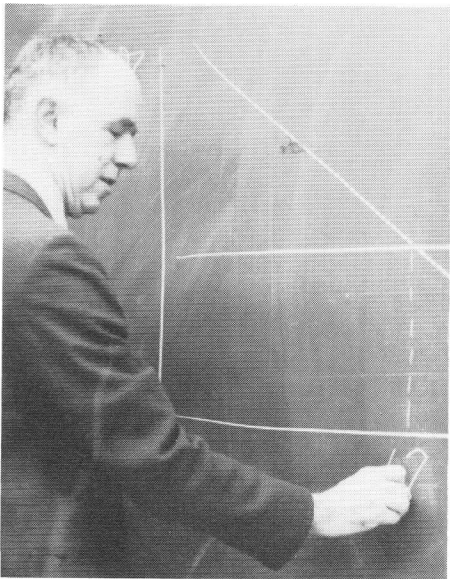
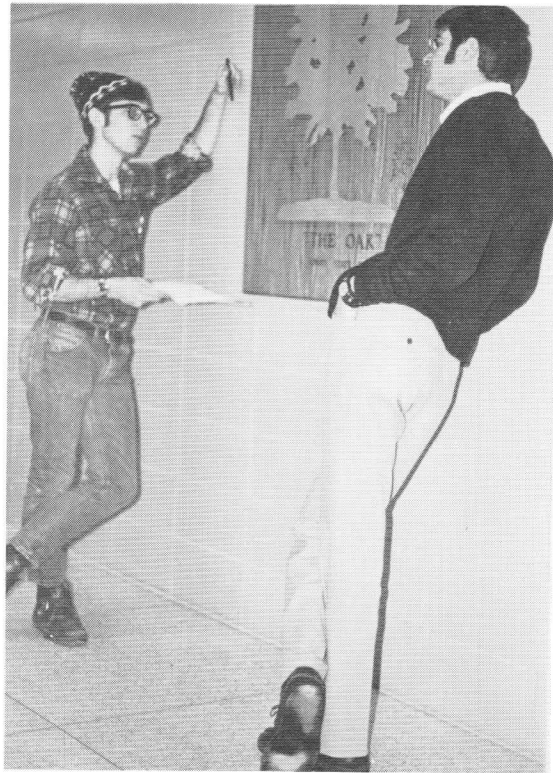
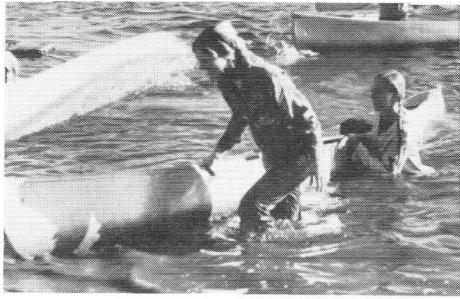
How did I miss that on the last fire?



Ah, no, Dr. Bensend—we were just having a small gang war.

Parting Shots of a Staff in Action





Bottoms up!!
Until next year . . .



The End

**Remember the 1974 Ames Forester starts now.
Please save and submit starting now to help next years staff.**

The Editor

